The EMS Authority's Special Grant Program

The Health and Safety Code (Sec. 1797.200) permits a county to develop an EMS program. Each county developing an EMS program must designate a local EMS agency, which may be the county health department, an agency established and operated by the county, an entity with which the county contracts for the purposes of EMS administration, or a joint powers agency. Funding of local EMS agencies is generally the responsibility of the county establishing the EMS program. In California, the development of EMS systems has been varied as a result of the state's large size, geographical features, diverse population distribution, and differing availability at the local level of adequate finances and other resources. In an effort to promote the development and maintenance of EMS systems, some state and federal funding is available to assist local EMS agencies in maintaining, developing, improving, and evaluating local services.

The EMS Authority administers two local assistance funding programs. They are (1) the State General Fund and, (2) the Federal Preventive Health and Health Services (in California called Prevention 2000) Block Grant.

Prevention 2000 Block Grant funds (approximately $1.7 million) are allocated to local EMS agencies annually for special projects to develop, implement, and improve local and state EMS capabilities.

Special Project Grant Selection Process

The EMS Authority utilizes a competitive grant selection process. Proposals are sorted and reviewed by target areas to allow an organized and equitable review process.

A review committee consisting of 5-8 reviewers drawn from the EMS community convenes in Sacramento. The committee consists of EMS administrators, medical directors, and subject experts as determined by the EMS Authority. Individuals do not serve on a target area committee for which their local EMS agency has submitted an application. There is one primary and one secondary reviewer for each grant application. They review in depth and present the project to the whole committee. All reviewers receive copies of all of the proposals being reviewed by the committee.

The reviewers make ranked recommendations for funding of projects and provide written comments on each proposal to the EMS Authority.

The EMS Authority makes the final selection of projects to be funded. Funds are allocated according to the ranking of the proposals. Amounts allocated are related to the appropriateness of the budget, the potential benefit, and the availability of funds.

The EMS Authority provides a summary of the review committee's comments (positive and negative) for each proposal to help applicants improve future proposals for funding.

With respect to Special Project Grants, it is EMSA's goal to continue the funding stream to local EMS agencies. The specific use of these funds are to assist local EMS agencies to improve underdeveloped EMS system components.

It is also our goal to improve the transferability of projects, by examining the statewide application of proposed projects. We wish to reduce the reliance upon special projects to augment local EMS agency budgets.

The EMS Authority distributes the abstracts of projects annually and will continue a participatory review of grant submissions to meet these goals.

Section I contains the Abstract Reports from FY 96/97.

Section II contains the Abstract Reports from FY 97/98.

SECTION I

SPECIAL PROJECT ABSTRACTS

1996/97 SFY GRANTS

Primary Care In Rural EMS

Grantee:
San Bernardino EMS Agency
Project Number: EMS-6039
Project Period: 09/01/96-08/31/98
Project Amount: $60,000.00

EMS Administrator:
Diane Fisher
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(909) 888-7511

Introduction

Continuing changes in the provision of medical care, both at the prehospital and hospital phases, have created a need to reevaluate the EMS system in order to provide efficient and appropriate utilization of existing resources. The EMS system continues to be impacted by the many cases of patients seeking treatment in an emergency room, which are non-emergent, but enter the EMS system.

Project Description

This project proposed to develop an expanded scope of practiced for EMT-Ps to assure all patients receive appropriate care in a cost efficient manner through the development and implementation of the provision of primary care in the field through the establishment of a "Paramedic Community Health Care Specialist".

The project was designed to:

1. Assist in reaching patients who slip through the cracks of an ever-widening health care network;
2. assist in making available visits which are more convenient to individuals with no transportation or limited mobility;
3. realize a reduction in prehospital emergency medical care costs by eliminating the necessity to transport minor or non-emergency cases;
4. aid in relieving overcrowding in emergency departments and over utilization of existing resources.
5. decrease the number of code three responses;
6. provide valuable data for EMS and epidemiology data banks;
7. provide preventive health education; and,
8. create new career opportunities for EMS personnel.

The major objectives were:

1. To determine the communities/areas for participation.
2. To define the expanded scope of practice for the "Paramedic Community Health Care Specialist".
3. To clarify legal framework in which to implement the project.
4. To develop protocols/policies required for expanded scope of practice.
5. To develop and implement training requirements.
6. To develop reimbursement or other financial support mechanisms for expanded EMS services.
7. To develop mechanism for monitoring, evaluation and quality assurance.
8. To develop protocols, policies, procedures to integrate non-emergency triage and appropriate response.

Methodology

EMS Agency staff met with health care providers in all three counties, Inyo, Mono, and San Bernardino. A number of meetings were held with both prehospital and hospital personnel within specific geographic areas. In areas where the medical community supported the implementation of this project, task forces were formed to develop the scope of practice for approval by the medical community.

Outcomes

In Inyo County, the draft protocols/policies were developed and submitted for review. Draft training requirements were completed based on the Task Force recommendations.

Interest remains high in San Bernardino County and efforts will continue to implement this type of program where support is evident.

Mono County, through its EMCC, elected not to participate in this program.

Legal Counsel is currently reviewing the proposed Inyo County program.

Reimbursement issues will be resolved largely at the State and national levels. However, staff will continue to address these issues at the local level.

Conclusion

This program will be implemented in Inyo County and probably within several areas of San Bernardino County; however, this was not completed within the time frame of the grant cycle. Interest remains high and efforts will continue to move forward with this project. Emphasis will be placed in Inyo County due to the accessibility of all participants.

Due to the vast geographical area of the region and the large number of prehospital providers and individual communities, the initiating of meetings with the involved medical communities became extremely time consuming.

The project stimulates a great deal of interest and will require dedication of at least a half time professional staff position to implement the project in San Bernardino County. Existing staff will continue to work with communities who have expressed an interest. We believe this program will be implemented; however; not as soon as we had proposed.

Cost reimbursement is a major hurdle, which we believe may have to be resolved at the State or national level.

Upgrading Existing HEICS Plans

Grantee:
San Mateo County EMS Agency
Project Number: EMS-6040
Project Period: 09/01/96-09/30/98
Project Amount: $44,990.00

EMS Administrator:
Barbara Pletz
225 West 37th Avenue
San Mateo, CA 94403
(650) 573-2564

Introduction

The Hospital Emergency Incident Command System (HEICS) Revision Project was initiated to acquire knowledge regarding the use of the generic hospital disaster response system developed in 1990, and to provide updated improvements where indicated. The Incident Command System based plan has gained considerable statewide and national attention since the release of the second edition in May of 1993. It is the Revision Project's goal to improve upon that success by producing a third edition and supportive educational adjuncts.

Project Description

The project set out to ascertain data regarding the current usage, understanding and likes/dislikes regarding the HEICS disaster response plan. From this information, the current HEICS plan and document would be revised and made available. A package of materials would then be developed to promote understanding and acceptance of the revised HEICS plan. This "package" would include a companion document, access to an Internet web page and a video to introduce HEICS.

Tasks/Methodology

A project task force was assembled comprised of hospital clinical and non-clinical emergency planners along with local and state medical disaster managers. This thirteen-member task force would advise on most components of the project. An eleven-question narrative questionnaire survey was mailed to hospital administrators and placed into a database. From this information adjustments were made to the HEICS document in the form of an enhanced Executive Summary (companion document) and a division of the manuscript into a two-volume document. Web pages dedicated to the HEICS program were developed based upon needs assessed from the survey. A 16-minute video was produced to explain the reasons for, origins of and attributes of the HEICS plan. The video will be mailed to acute care hospital administrators within the state.

Outcomes

Surveys concluded that users of the current HEICS plan were satisfied with its performance during exercises and actual emergencies. However, there was a misunderstanding of some of the plan's principal attributes. To correct this an instructive and illustrative Executive Summary was rewritten to better introduce the program and the document. Web pages were designed to teach and provide support for those new to HEICS and those already familiar with it. An introductory video was produced to supply hospital administrators and emergency planners important reasons to adopt the HEICS program and the benefits to be derived

by doing so.

Conclusion

HEICS is a useful adjunct to a hospital's emergency planning process. However, understudying its features and attributes is critical to gain support from administrators and management. The presentation of a rewritten Executive Summary, an instructive web page and an introductory video will help strengthen support for the adoption of this plan. In addition, the ability to download the HEICS third edition document from the state Emergency Medical Services Authority's web site will help to ensure further dissemination of this successful plan.

Prehospital Data Collection

Grantee:
Sierra-Sacramento Valley EMS Agency
Project Number: EMS-6021
Project Period: 07/01/96-06/30/98
Project Amount: $52,000.00

EMS Administrator:
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(916) 652-3690

Introduction

This project was intended to determine the feasibility of collecting 9-1-1 call times at the time the call is received at the PSAP (primary public safety answer point). These calls were recorded by the pre-hospital field personnel on the bubble portion of the PCR. This method results in inaccurate recording times and time variances.

Project Description

This project would result in a modification of the current database to allow direct time input from the American Medical Response (AMR) CAD system. Yolo County was beginning implementation of a new CAD system, which would be linked to the AMR CAD to allow capture of dispatch times in Yolo County. This linkage system would allow for S-SV to comply to the State EMS Systems Standards and Guidelines (Standard 4.05). Linkage would occur via a lease line from Yolo County Communications Center and the AMR CAD system. The linkage from AMR CAD to the S-SV database would occur by modem.

In addition to recording call pick-up times, this project would allow S-SV to identify and track all dispatched calls through the EMScan data system. The EMScan system matches the total number of calls dispatched with individual EMT-I or EMT-P identification number to ensure that a PCR is completed for each call.

Tasks/Methodology

The following tasks were identified and accomplished during this project:

A consultant was hired to accomplish the following:

a. Develop linking specifications between the EMScan prehospital data system and AMR's CAD and the Yolo County PSAP.

b. Develop an enhanced linkage interface that will translate the data language into the EMScan data language.

c. Investigate Integrated Services Digital Network to determine the feasibility of this type of data transfer.

d. Revise the S-SV and AMR data structures for enhanced elements. The current data structures are inadequate for this project.

e. Develop the CAD export specifications.

f. Reconfigure the EMScan system to allow for linkage.

g. Develop custom reporting/error analysis. The EMScan system has the ability to generate custom developed reports.

h. The consultant was also responsible for installation of hardware, software and telecommunications.

S-SV was responsible for scheduling meetings between the three agencies involved, oversight of the project, purchase of hardware and software, liaison between all involved parties, specifying data elements, development of error analysis and reports.

Outcomes

This project faced many obstacles from the beginning. Both Yolo County Communications and AMR were just beginning installation of their CAD systems, both of which experienced delays of more than one year. A one year extension of the grant period was sought and granted by the State EMS Authority. Participating agencies consultants were brought in mid-way through the grant cycle, causing even more delays and communication difficulties.

At this stage of the project, the final data revisions are not complete. It is anticipated that this project will begin receiving data from the Yolo County PSAP in August, 1998.

Conclusion

The pre-hospital data collection project, when fully implemented, will automate the receipt of 9-1-1 call times and match the number of dispatches with the number of patient care reports completed and received by the EMS Agency. Because this project has not been successfully completed S-SV does not believe this project is feasible statewide.

SECTION II

SPECIAL PROJECT ABSTRACTS

1997/98 SFY GRANTS

Emergency Medical Services for Children (EMSC)

Grantee:
Alameda County EMS Agency
Project Number: EMS-7010
Project Period: 07/01/97-12/31/98
Project Amount: $80,000.00

EMS Administrator:
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Oakland, CA 94607
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Introduction

The Alameda County (ALCO) EMS District recognized early on in the pre-planning phases of this project that a minimum of two years would be required to integrate a comprehensive EMSC program into their evolving EMS system. A second year of grant funding was awarded to the District in July 1997. Year two of the EMSC Project sought to expand upon Year one's accomplishments by completing the development and implementation of the State recommended components of a comprehensive EMSC program.

Project Description

The overall objective of the Project was to design an EMSC program that: 1) offered comprehensive pediatric services; 2) was medically sound; 3) was cost-effective; and 4) was easily accessible to all children in Alameda County. With this goal in mind, the project's efforts were focused on the following activities:

- To incorporate a permanent EMSC Program into the EMS District's existing structure;
- to develop a comprehensive EMS Plan;
- to survey prehospital providers on compliance with pediatric equipment and supply requirements;
- to identify the pediatric educational needs of ACLO prehospital personnel;
- to implement the Pediatric guidelines for Emergency Departments through a consultation/educational review process;
- to develop Pediatric Critical Care Consultation and Transfer Guidelines;
- to facilitate the establishment of inter-facility transfer agreements between community facilities and PCCC and PTC;
- to develop Pediatric Critical Care Standards; and,
- to designate a minimum of one Pediatric Critical Care Center.

Tasks/Methodology

The EMSC Advisory Committee remained the Project's core work group. Several ad hoc committees were convened throughout the course of the grant however; all work plans, materials, and documents were reviewed and revised as needed by the EMSC Advisory Committee. This committee's membership remained constant and met on an average of once a month. The Project Coordinator provided staff support to all committees.

Two approaches of facility review were utilized by the Project. Physicians and nurses from Children's Hospital performed the consultation/educational reviews of the county's emergency departments. Expert

consultants from PCCCs (located outside of the Bay Area) were contracted with through the Pediatric Intensive Care Network to perform a formal review of the Children's Hospital, Oakland for PCCC designation.

The Project employed the use of a survey to determine the pediatric educational needs of the system's prehospital personnel. An ad hoc committee that was composed of the District's Trauma Coordinator, three paramedics, and the Project Coordinator developed a survey. The survey was distributed to all EMS system providers. Over 400 responses were received. The majority of responses indicate that despite the training level of provider, prehospital treatment of pediatric patients has been limited to BLS interventions such as assessment, c-spine immobilization, and airway management.

Pediatric equipment and supplies requirements were revised and implemented during the first year of the project. The EMS District supplied all ALS prehospital providers and with Broselow tapes and pulse oximetry equipment. Compliance with additional required equipment and associated costs were determined utilizing the California EMSC Project cost projection tool. This tool was also used in determining consultation/educational visit costs, as well as those associated with PCCC designation.

Outcomes

< Implementation of *Administration, Personnel, and Policy Guidelines for the Care of the Pediatric Patients in the Emergency Department.*
As proposed, 50% of the county's emergency departments were reviewed utilizing the consultation/educational approach. The remaining departments will be reviewed within one year. During each review, *Pediatric Tertiary Care Center Consultation and Transfer Guidelines* were distributed and discussed.

< Identification of potential problems with ALS pediatric skills competencies that lead to the requirement that a pediatric advanced life support course (PALS, PEPP, or equivalent) must be completed every two years to maintain paramedic accreditation in Alameda County.

< Development of *Standards for Pediatric Critical Care Centers.*

< Review and pending designation of Children's Hospital, Oakland as a Pediatric Critical Care Center.

< Integration of a permanent EMSC Program into the existing Alameda County EMS system and program structure.

< Development of an EMSC Plan that facilitate the on-going maintenance and evaluation of the EMSC Program.

Conclusion

The overall commitment of Alameda County EMS District and system participants was vital to the Project and will remain so if the newly integrated EMSC Program is to remain successful.

Regional Disaster Medical Health Coordinator (RDMHC)

Grantee:
Contra Costa County EMS Agency
Project Number: EMS-7011
Project Period: 07/01/97-06/30/98
Project Amount: $80,000.00

EMS Administrator:
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Introduction

Region II, comprised of the 16 northern California coastal counties, is one of six regions established by the State Office of Emergency Services for the coordination of disaster mutual aid. The Contra Costa County Health Officer has served as the Region II Regional Disaster Medical/Health Coordinator (RDMHC) since 1990. The RDMHC is responsible for coordinating the acquisition of medical/health mutual aid within Region II, both in support of events *not* affecting his region and those occurring within his region.

Project Description

The focus of the seventh year RDMHC Project was sponsorship of a Bay Area Disaster Medical Assistance Team (DMAT), a volunteer team organized under the National Disaster Medical System (NDMS) through the U.S. Public Health Service. DMATs provide local patient staging/reception services, field level emergency medical treatment, and augment local medical capabilities during disasters. Both the State EMSA and the U.S. Public Health Service have placed high priority on the formation of a DMAT in the SF Bay area. The Bay Area is the highest disaster risk metropolitan area (nationally) without a DMAT.

Bringing the RDMHC mutual aid process in line with CA Standardized Emergency Management System (SEMS) regulations was another major focus of the project. Objectives included getting the Region II RDMHC Emergency Plan adopted, developing a standardized mutual aid agreement to be adopted by each of the 16 counties, facilitating appointment of their Operational Area Disaster Medical/Health Coordinators (OADMHCs) & assisting counties with their implementation of both SEMS training & Hospital Emergency Incident Command System training. Establishing & maintaining contact with OADMHCs & individuals from other key mutual aid agencies through quarterly meetings, communication drills & table top exercises were objectives which facilitated response to the real disaster during the floods/storms of 1998!

Tasks/Methodology:

DMAT Team Development: A Region II Steering Committee was established, a sponsor identified, a five-county Planning Committee was formed, a Development Plan was adopted and tasks assigned, training modules established, committees formed, members recruited and trained, equipment purchased, a Policy and Procedure Manual drafted, and a Commander recruited. Initial individual county-component-unit concept was deferred and efforts focused on member recruitment.

Plan/Mutual Aid Agreement Development: The Region II RDMHC Interim

Emergency Plan was adopted, containing the 16-county and state agency 24-hr. contacts and numbers which are updated quarterly. Discussions of a "model" mutual aid/cooperative assistance agreement and ambulance mutual aid policies, and a table top exercise on ambulance mutual aid were held in preparation for developing a mutual aid agreement document.

Training and Exercises: Implementation of SEMS at county med/health agencies continued through assistance with med/health agency departmental disaster plans and departmental operations centers, exercises and monthly communication drills via fax both day and night.

Outcomes

The products of Plan implementation, mutual aid/cooperative assistance agreement development, SEMS training and exercises, HEICS trainings, quarterly meetings, communications drills, and the strengthening of communication lines and understanding due to the efforts to develop and establish a DMAT team have all contributed to counties' knowledge and understanding of each others' organizations and resources, thus facilitating the implementation of a medical/health mutual aid system.

Conclusion

The relationships established with each of the Operational Areas, the state and federal agencies and other disaster response agencies enhance the Region's ability to provide the State EMSA with closer contacts, a better trained and better coordinated network of medical/health professionals during disaster medical/health mutual aid and cooperative assistance response to not only outside-the-region but also within-the-region events.

Coalition on Injury Prevention

Grantee:
El Dorado County EMS Agency
Project Number: EMS-7012
Project Period: 07/01/97-03/31/99
Project Amount: $40,000.00

EMS Administrator:
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(530) 621-6500

Introduction

There were two major barriers impeding comprehensive injury prevention efforts throughout the county. First, we were unable to identify the extent of unintentional injuries. Though we have data on deaths resulting from injury, we do not have statistics on the number and severity of unintentional injuries. And second, there was no county-wide organization working on injury prevention strategies or education. Of those groups that are addressing injury prevention, they are sporadic and not coordinated between each other. Our goal was to establish a county-wide coalition that would create strategies in prevention; identify the top five injuries, compile and disseminate existing injury prevention programs, implement new programs or modify existing programs, and collaborate with other agencies in education efforts.

Project Description

The major objectives were to:

1. Develop a coalition on injury prevention, identify key stakeholders, and establish routine meeting times.
2. Conduct a needs assessment; compile data with the number and severity of injuries, identify and enlist the support of stakeholder organizations, locate previous community needs assessments, surveys and studies that have been conducted, conduct a community resource mapping to identify existing prevention programs, and conduct focus group discussions, key informant interviews, and surveys among stakeholders to determine the needs and solutions for injury prevention efforts.
3. Prioritize needs; review and analyze all information collected, prioritize the top five unintentional injuries, establish baseline data for each injury to measure outcomes and to write and publish the first annual report on "The State of Unintentional Injuries in El Dorado County".
4. Research and select community based programs to reduce the rate of the top five injuries; research potential prevention programs, evaluate program fit based on success rate, cost, effectiveness, and adaptability to our rural communities.
5. Implement programs aimed at reducing the top five injuries, establish time lines and outcome measures, and determine program elements, such as, sites, strategies, campaigns, project partners and program resources.

Tasks/Methodology

El Dorado Coalition on Injury Prevention was implemented with the

participating of Public Health and EMS supervisors and program coordinators. Very little interest was expressed by stakeholders to form a broader coalition. Therefore we kept dialogs open with stakeholders and made them aware of our progress.

Our needs assessment intended to look for the causes of unintentional injuries and ask for recommendations based on actual experience. Key informant interviews were conducted and focus groups were conducted with Public Health personnel and WIC recipients. Data was collected from the Department of Health Services, local hospitals and national statistics. A resource mapping of current prevention programs was completed. The coalition reviewed the data, statistics and anecdotal information and prioritized the top five injuries as well as identified existing programs based on success rate, cost and effectiveness. The programs were implemented with the support and collaboration of various agencies including, other Public Health efforts in prevention, the California Highway Patrol, the Lake Valley First District, the South Lake Tahoe Police Department, the El Dorado County Sheriff's Department and the Lake Tahoe Unified School District.

Outcomes

We were unable to complete the annual report that would outline the efforts of the coalition due to a failure of the MIS Surveillance System. Therefore, no baseline data was established and no outcomes measured. This was a constant frustration during the implementation process. However, we were able to use the DHS information which supported our survey findings. This survey and prioritization of injuries was delivered to stakeholders. A list of national and state resources was disseminated to stakeholders. Injury prevention curriculum was secured from an out of state hospital which was distributed to interested schools. Bicycle rodeos were conducted at five schools, with the collaboration of various agencies. Senior exercise program manuals, teacher manuals and Spanish translation manuals were disseminated to the community. A Spectrum of Prevention model was provided by the Prevention Institute, which was provided to stakeholders through a county-wide training.

Conclusion

Although the coalition took much more time for us to develop than we thought, we accomplished our goal of coordinating and collaborating on our outreach efforts. We also established ourselves as an agency that is on the cutting edge of injury prevention strategies and have identified outside resources, program descriptions, and information to obtain our goal of reducing the top five injuries. We continue to provide leadership to stakeholders, and operate our programs with adaptability to the resources in our community. We still lack the baseline data to determine if our programs changed peoples thinking and activities relative to injury prevention. Did the programs reduce targeted injuries, and what were the cost of savings from prevented injuries in terms of labor hours lost, and hospital expenses? The information gathered from hospital emergency rooms and the EMS report the diagnosis of the patient not the cause of injury. Therefore, we based our prioritization of the top five injuries largely on anecdotal information. The Department of Health Services Epidemiology Department was very helpful in providing us with a one months' findings in 1996. However, they were unable to give us more information due to a lack of funds to perform the analysis.

Trauma Registry

Grantee:
El Dorado County EMS Agency
Project Number: EMS-7013
Project Period: 07/01/97-03/31/99
Project Amount: $35,000.00

EMS Administrator:
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Introduction/Project Description

On July 1, 1997, the State Emergency Medical Service Authority awarded a 1997/1998 Block Grant EMS-7013 to the El Dorado County EMS Agency (The Agency). The purpose of the grant was to develop, implement and manage a county-wide Trauma Registry software system ("Collector"), with ties to the Sierra-Sacramento Valley (SSV) EMS Agency regional trauma system.

This grant was awarded based on the following problem statement. *El Dorado County lacks a trauma registry system, which is vital to the monitoring of trauma care and development of policies that positively influence patient outcomes. Although the EMS Agency and hospital authorities realize the importance of establishing a trauma registry system, we lack the funds to accomplish this task.*

Tasks/Methodology

The project was developed under contract with professional EMS system software consultants. This system was developed and implemented in three (3) distinct phases:

Phase I - Software/Hardware Purchase and Installation

The project team evaluated commercially available software that would meet the needs and reporting requirements of a trauma registry system to monitor and track trauma care for El Dorado County. A the end of the evaluation period, it was the consensus of the team that a commercially available option was the most prudent direction to meet the grant objectives. The team found only one software product that met all the needs of an El Dorado County trauma registry system that integrates trauma data from surrounding counties.

The product selected was the Tri-Analytics "Collector" software. A purchase agreement was negotiated, and this software was purchased and delivered in February 1998. The EMS Agency provided a computer to Marshall Hospital (west slope base hospital) and Barton Memorial Hospital (base hospital for the Lake Tahoe Basin) for trauma registry system use.

Phase 2 - System Training

During this phase, the software vendor provided training to the members of the project team and designated emergency room staff from both El Dorado County base hospitals. The training classes took place on March 18-19, 1998, and consisted of two eight-hour sessions for all participating staff. The sessions provided all users with software and protocol training to ensure consistent implementation of the system, and included extensive hands-on experience entering data into the system. During the training, attention

was also given to the software reporting capabilities and how users access these capabilities.

Phase 3 - Implementation/Evaluation

During March 1998, the system was installed at both base hospitals and the El Dorado County EMS Agency. At the conclusion of this phase, the system was fully implemented and operational and data input began. Patient information records dating from January 1, 1998 forward were then input into the system. We continue to receive periodic reports that include cumulative data from inception. These periodic reports are distributed to participating hospitals as we receive them from Tri-Analytics.

These periodic reports contrast each participating hospital's patients with those of the entire data set for the period, provide outcome evaluation statistics comparing actual and severity-adjusted expected survival rates, and support each institution's quality improvement program by identifying patients qualifying for peer review and patients who are "unexpected" survivors or deaths.

Trauma registry data is being shared, compared and integrated with Sierra-Sacramento Valley EMS Agency on an ongoing basis.

It is probable that approximately a three-year accumulation of data will be required before significant data is available and trends can be identified, and then suggested changes can be made. It is projected that the first cumulative report that should contain sufficient data to influence changes will be provided on January 1, 2001, to the El Dorado County Board of Supervisors, El Dorado County Trauma Committee, Emergency Medical Care Committee (EMCC), Medical Advisory Committee (MAC) and the State EMS Authority.

The cumulative report will include statistics for each reporting period and cumulative date for the total year. It will contain information to assist in trauma system evaluation (e.g., distributions of prehospital times) to evaluate various patient sets (e.g., elderly or persons with violent injury), and to generate applied research results (e.g., how discharge to rehabilitation conforms to practices in other systems).

Outcomes

The operations phase of the trauma registry implementation has facilitated the following:

- A trauma registry system is installed and operating at both El Dorado County hospital sites.
- The trauma system continues to collect and disseminate trauma-related data to establish a base for development of policies and procedures to develop field policies and procedures to positively influence patient outcomes.
- The system allows the Agency to benchmark trauma services of local hospitals and air transport providers.
- The trauma registry system is compatible with regional trauma registry systems, allowing for information sharing and tracking of patients transported to out-of-county trauma centers. Relevant data flows between Sierra-Sacramento Valley EMS Agency and El Dorado County EMS Agency.
- The trauma system is capable of the collection and analysis of the full volume of El Dorado County trauma care from prehospital care through

hospital care.

The project team concluded that all the above criteria were fully met by the implementation of the trauma registry system and will fulfill our needs for trauma-related data to develop trauma system improvements.

Regional Disaster Medical Health Coordinator (RDMHC)

Grantee:
Fresno, Kings, Madera EMS Agency
Project Number: EMS-7014
Project Period: 07/01/97-06/30/98
Project Amount: $40,000.00

EMS Administrator:
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Introduction

OES Region V includes the counties of Kern, Tulare, Kings, Fresno, Madera, Merced, and Mariposa. In addition to these seven counties is Yosemite National Park and the Kings Canyon/Sequoia National Parks. Fresno County is the designated Regional Disaster Medical Health Coordinator for OES Region V. The objectives of this program are to bring the individual agencies from within these counties together in order to assure an organized and effective response. The Fresno/Kings/Madera EMS Agency continues to develop the role of the RDMHC to coordinate the resources and functions within Region V.

Project Description

The purpose of this project was to continue the development of the RDMHC program and complete the plans, procedures, and linkages within OES Region V for an organized and effective response to a disaster incident. The goals and objectives were implemented to organize the infra-structure of the RDMHC program and identify the responsible OADMHC personnel for each county in the region. The coordination of the project between these participants allow for the advancement of a comprehensive plan to be developed. Planned exercises and disaster drills are completed to test, educate, and prepare the region for potential disaster responses.

Tasks/Methodology

The administration of the Regional Disaster Medical Health Coordination project was coordinated and supervised by Fresno/Kings/Madera EMS staff. The tasks involved in this project involve the identification of the personnel and resources throughout the region in order to organize a pre-planned process for the response in the event of a large disaster. The assigned staff adhered to the program objectives which were included in the Regional Disaster Medical Health Coordinator project proposal submitted to the California Emergency Medical Services Authority.

The project set an objective to provide for the coordination of disaster resources through-out OES Region V. Several meetings were required to obtain an open communication amongst the counties and also to provide information on the goals and objectives of the project.

Outcomes

RDMHC project staff attended meetings at the State EMS Authority to develop standards and a boiler plate plan to be used by each of the regions for the organized development and structuring of an RDMHC plan. This plan would be used by each of the regions to standardize the plan level throughout the state. In addition, cooperative agreements and mutual aid was also discussed.

EOC training and SEMS training continues for RDMHC staff. In addition, SEMS has been fully implemented throughout the entire region. This training will continue into the next year.

A RDMHC Region V resource manual has been completed and distributed to the state and region. This resource manual identifies the responsible staff from each county to serve as a resource in the event of a disaster.

Conclusion

The RDMHC Project has given the RDMHC project staff and OADMHCs the opportunity to organize the response of a large scale disaster and assure that there is effective and efficient utilization of resources. The project will continue to improve the preparation and response to potential disasters through the open communications and relationships developed with the neighboring counties and staff.

Emergency Medical Dispatch (EMD)

Grantee:
Imperial County EMS Agency
Project Number: EMS-7015
Project Period: 07/01/97-12/31/98
Project Amount: $40,000.00

EMS Administrator
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Introduction

The EMD program is well underway in Imperial County. Two of the seven PSAP's in the county are now providing EMD. After completion of the first year project, two additional PSAP's (Brawley P.D. and Holtville P.D.) requested to participate in the program. Our overall goal is to expand the EMD program to all PSAP's in Imperial County.

Project Description

We hope to expand the EMD program to other PSAP's so that more 911 requests for medical aid will be answered by trained emergency medical dispatchers using criteria based dispatch protocols who will effectively triage emergency medical calls, dispatch the appropriate level of response and improve the chances of survival from a life-threatening medical emergency by providing pre-arrival instructions, improve the availability of units for true emergencies, enhance the run capacity of existing units, reduce the costs associated with the inefficient dispatch of medical resources, and increase the overall efficiency of the EMS system.

Tasks/Methodology

Expanding the EMD program to additional PSAP's began with creating an EMD Steering and Oversight Committee to assist with project expansion. Two Basic EMD courses were then conducted to train dispatchers from the joining PSAP's. An EMD Instructor course was conducted which allows for local control of the scheduling of future Basic EMD courses as well as reducing the costs associated with training. The next step involved implementing the EMD QA/CQI and Continuing Dispatch Education programs at the joining PSAP's. The final step was to begin providing EMD at the new PSAP's.

Outcomes

The EMD program was successfully implemented with the joining PSAP's by July 1, 1998 and all project objectives were met. Nineteen dispatchers completed the Basic EMD Course and six completed the EMD Instructor Course. The Continuous Quality Improvement and Continuing Dispatch Education programs have been implemented with the joining PSAP's.

Conclusion

In summary, expanding the EMD Program to other PSAP's in Imperial County has enabled the EMS Agency to accomplish its primary objective to increase the overall efficiency of the EMS System. The data collected indicates that trained emergency medical dispatchers using criteria based dispatch protocols can effectively triage emergency medical calls and improve the chances of survival from a life-threatening medical emergency by providing pre-arrival

instructions; and that the quality assurance program in conjunction with the continuing dispatch education program modify and improve provider performance.

Regional Disaster Medical Health Coordinator (RDMHC)

Grantee:
Los Angeles County EMS Agency
Project Number: EMS-7016
Project Period: 07/01/97-06/30/98
Project Amount: $80,000.00

EMS Administrator
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Introduction

Region I includes the counties of Los Angeles, Orange, Ventura, San Luis Obispo and Santa Barbara. Los Angeles County is the seat for the Region I, RDMHC Grant. While Region I comprises only 8 percent of the California land area (12,738 sq. miles) it hosts 42 percent of the state population (13,239,400). In addition, since January 1992, California has suffered from 16 Federally Declared Major Disasters and Emergencies. Many of which occurred within Region I.

Providing a systematic coordinated medical response including preestablished medical and health cooperative assistance agreements and maintained communication systems would reduce response time and ensure effective resource distribution. This would subsequently reduce the economic and casualty costs associated with large disasters.

Project Description

The purpose of the 1997-1998 Regional Disaster Medical Health Coordinator Grant #7016 was to maintain and build on the RDMHC staff position for OES Region I. Responsibilities of this position included but were not limited to the following: maintain and train Operational Area Disaster Medical Health Coordinators, develop and maintain disaster resource registries, modify the Regional Disaster Plan, identify and implement training schemes, review and enhance the Regional communication system, conduct routine exercises, coordinate Medical and Health Cooperative Assistance Agreements, direct quarterly meetings, prepare quarterly reports, serve as liaison with public and private disaster response agencies and serve as a Agent of the State EMS Authority for all disaster correspondence, preparation, response and recovery.

Task/Methodology

The position of RDMHC Staff has been maintained as part of the Los Angeles County, Department of Health Services EMS Agency. Operational Area representatives are maintained by individual county Health Officers. The Region I Resource Guide was updated through Operational Area surveys and information collected from the Emergency Medical Services Authority and the Governors Office of Emergency Services. Resource listings for the Regional Disaster Medical and Health Plan were collected from the State of California, Department of Health Services Licensing Division. This joint plan includes information for all Operational Areas within Region I and Region VI. The intent of a collaborative effort was to provide a broader, more systematic response approach. This decision was based on the high frequency of disaster related events within these two Regions and the recent completion of the Southern Region Cooperative Assistance Agreement. The Regional Response Plan was finalized under the auspices of the

Standardized Emergency Management System and through the synthesis of former RDMHC Plans from Regions I and VI.

The Southern Region Cooperative Assistance Agreement was completed to provide a standard agreement for the request, mobilization and application of medical and health assistance. It was written through the combined efforts of all Southern Region Operational Areas.

Training schemes for SEMS, HEICS and WMD were provided through local EMS agencies, the Governor's Office of Emergency Services (via CSTI), and area hospitals.

Regional disaster communication was maintained primarily through telephone and fax services. The OASIS satellite telephone provides contact among all regional and state EMS Agencies. Other regional communication instruments include the local HEAR radio system and the transportable satellite telephone system. In addition, the RDMHC, the Ventura OADMHC, and the Orange County OADMHC have received copies of the Regional Information Management System (RIMS) created by the State OES. Active communication through this medium is pending OES support for connection and transmission problems.

Quarterly meetings, routine exercises, regional reports and appropriate correspondence were maintained through ongoing dialogue between Region I Operational Areas and the RDMHC.

The Geographic Information System continues to assist the region with mapping capability of medical facilities and emergency response agencies. This has proven helpful during exercises and for various planning issues. Further training and experience are required to provide the region with greater depth of service for analytical and statistical analysis for regional facilities.

Outcomes

Utilizing a permanent RDMHC staff person and subsequent Operational Area Disaster Coordinators has been beneficial in accomplishing grant objectives. All of the regional managerial disaster personnel have been trained in either the SEMS and/or the HEICS systems. OADMHC's have received additional training at the California State Training Institute (CSTI) in courses for disaster managers. The Satellite communications and troublesome RIMS terminal have been used in tracking regional resources during exercises and real, disaster events. The completed Unified Southern Region RDMHC Disaster Response Plan and the Southern Region Cooperative Assistance Agreement have strengthened the Southern Regions ability to respond effectively and efficiently to emergencies and disasters.

Region I routinely participates in multiple local, regional, state and federal disaster exercises. These events provide ongoing training for regional disaster response activation.

These exercises have improved the systematic disaster response among all Region I Operational Areas and ensured a communication link in the event of wide-area telephone and/or power outages. Although the financial benefits are speculative, the potential for casualty reduction is well noted.

The RDMHC role has provided greater opportunity for disaster related outreach and for developing policy related issues. The RDMHC actively presents regional topics at public and private conferences and assists in

collecting and interpreting data for emergency response, hospital bed availability and influenza study committees. In addition, the RDMHC serves on both state and local emergency related committees such as the ENLA VOAD, HEICS Advisory Committee and the EMSA Legislative Committee.

Conclusion

The overall implementation of the RDMHC Project has provided a unique opportunity to improve local and regional disaster preparation and response through active communication among all agencies, disaster training seminars and exercises, cooperative assistance agreements and standardized protocols.

Disaster Medical Preparedness, Phase II

Grantee:
Marin County EMS Agency
Project Number: EMS-7017
Project Period: 07/01/97-12/31/98
Project Amount: $68,000.00

EMS Administrator:
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Introduction

Like all counties in the San Francisco Bay Area, Marin County is located in an area at high risk for a large-scale disaster, with access roads that will be severely restricted or unavailable.

No comprehensive plan existed to guide disaster workers should significant relocation of victims be necessary. Facilities such as physician's offices, medical clinics, and freestanding minor care providers were not a part of the disaster medical planning process. There was no mechanism in place to facilitate the utilization of professional medical personnel at any facility at which they were not previously employed.

It was imperative that appropriate planning for the provision of medical care in the Marin Operational area during a disaster be addressed before the need to provide that care arose. The initial year of funding addressed mainly logistical issues, establishing supply caches and contracting for needed services.

Project Description

This project, was a second year of funding, sought to develop a SEMS-based DOC structure to operationalize the functions of the Medical and Health branches within the Operational Area Emergency Operations plan. Objectives for the project included the following:

< To transition the steering committee, composed of representatives from impacted H & HS programs and appropriate outside agencies, from Phase I to Phase II activities.
< To recruit and hire staff to coordinate the project, contract with additional staff to assist with development of the project.
< To finalize SEMS-based structure for plan (drafted in Phase I) and develop/finalize mission statements for each section/branch.
< To assist programs/agencies with the development of plan components, concepts, activities and checklists with mission statements.
< To exercise and evaluate components of the draft plan.
< To integrate component plans into a single plan for the medical and health functions.
< To train department personnel to increase preparedness level.
< To evaluate physical setting required for activation of the department plan.
< To exercise, evaluate and refine medical/health plan.

Tasks/Methodology

The Steering Committee from the previous year's project continued to meet throughout the duration of Phase II. They reaffirmed the mission statement from the previous project and accepted a timetable and

workplan. Appropriate staff was assembled.

A SEMS-based structure (drafted in Phase I) was approved, finalized, and mission statements were drafted for each section and branch, beginning to give a sense of cohesive structure to the process.

Plan components, concepts, activities and checklists were developed, consistent with the mission statements of the sections and branches. Tabletop exercises were performed to evaluate components of the plan, but less than were anticipated.

Related plans (state, regional, operational area, local government, MCI) were evaluated to assure consistency between plans and appropriate interface. Other county programs and outside agencies were involved to achieve economy of scale, efficiency of effort, and expanded function.

Comprehensive training of department personnel is an area in which work remains incomplete. The training issues were larger than expected and personnel will require more training than originally anticipated. Training projections were also expanded to include yearly updates and participation in semi-annual exercises.

An evaluation of the physical setting required was done and recommendations were made to administration regarding both physical location and needed supplies and equipment.

An evaluation of the plan through a functional exercise did not occur during the grant period. Training issues that arose near the end of the project dictated reevaluation of the intent to proceed with a full-scale exercise prior to more structured training on the plan. An exercise schedule has been adopted and will result in an exercise at some level every six months.

Outcomes

This project, in conjunction with the previous year's project, has resulted in the development of SEMS-based DOC plan that will support the activities of the Operational Area Disaster Medical Health Coordinator both logistically and with a functional management structure in the accomplishments of his/her assigned tasks.

Conclusion

The plan, and the commitment to training and implementation made by the Department of Health and Human Services, greatly increases the potential that Marin County will be prepared to address medical and health issues that will arise following a disaster.

If approaching a similar project, a suggestion would be to approach the project less intensively, spending fewer hours per week, but over a longer period of time. Project staff found their ability to move rapidly slowed by the rate at which outside agencies were able to participate in a project not high on their priority list.

The level of personnel to be trained and their familiarity, or lack of familiarity with disaster issues will directly affect training issues.

Enhanced Paramedic Training

Grantee:
Merced County EMS Agency
Project Number: EMS-7018
Project Period: 07/01/97-03/31/99
Project Amount: $33,000.00

EMS Administrator:
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Merced, CA 95340
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Final Report and Abstract Report due May 31, 1999.

Medical Disaster Plan

Grantee:
Monterey County EMS Agency
Project Number: EMS-7019
Project Period: 07/01/97-06/30/98
Project Amount: $80,000.00

EMS Administrator:
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Introduction

Monterey County is at risk from a variety of hazards, both natural and manmade. Although past disaster response has been carried out successfully, the Health Department recognized that a comprehensive disaster plan was needed. Each Division in the Health Department operates somewhat autonomously, however, Division staff know the benefit of coordination during disaster response. The Standardized Emergency Management System (SEMS) and activation of a Department Operations Center (DOC) ensures a coordinated Health Department response. Recognizing this, the Director of the Health Department, initiated a planning effort to develop a Health Department Disaster Plan that would establish a DOC and describe Division responsibilities in separate Division Standard Operating Procedures (SOPs).

Project Description

The goal of the project was to develop an updated, comprehensive, functional medical disaster plan for the Monterey County Health Department. The resulting plan addresses response by each Health Department Division and establishes coordination among the Divisions based on principals of the Standardized Emergency Management System (SEMS). The plan provides for the activation of a Department Operations Center (DOC) staffed by Health Department personnel from the following Health Department Divisions: Administration; Emergency Medical Services; Family and Community Health Services; Environmental Health; Behavioral Health and Health Promotion.

Tasks/Methodology

The disaster planning effort was initiated in an internal Health Department memorandum from the Director of Health to Division Directors describing the project and asking each Director to name a Division Representative to serve on the Planning Committee. Individuals with disaster response experience and an interest in developing the plan were assigned to the committee.

In October 1997, the Monterey County Emergency Medical Services Agency entered into a Professional Services Standard Agreement with Laurie R. Friedman Consulting of San Francisco, to serve as Project Consultant. Laurie Benjamin served as the EMS Agency Project Coordinator responsible for ongoing liaison to Health Department Division Representatives.

A survey was conducted to determine the existing status of disaster response procedures and to review recent response activation by the Health Department. At the first Planning Committee in December 3, the Project Consultant presented an overview of the project and facilitated a discussion to develop the project mission statement. Over

the course of the next six months, the Project Consultant facilitated two additional meetings of the Planning Committee and met individually with them to develop specific procedures for their divisions's plans.

An Advisory Committee was convened to oversee the project. These individuals represented county and regional experts in the areas of emergency management and emergency medical services. The Advisory Committee met once to review the SEMS organization and once to review the final draft plan.

Existing plans and procedures were reviewed for use in the Health Department Disaster Plan and SOPs. Meetings with members of the Planning Committee provided information needed to write the first draft plan which contained the overall structure, format and content of the plan along with inserted "Planning Task" boxes to illustrate the information needed to complete the plan. The Planning Committee reviewed the first draft and provided the information listed in the planning task boxes. Their input was carefully integrated into the final Health Department Disaster Plan and SOPs. This document was completed in May 1998, circulated for comment in June 1998, and published in July 1998.

Resources and supplies were identified for the staff disaster kits. Twenty kits were assembled and distributed to personnel who will be involved in disaster efforts at the Health Department. It was determined that the DOC and an alternate site would be located at the main Health Department. Although DOC upgrades were identified, specific changes and needs would best be determined through future drills and actual DOC activation.

Two tabletop response exercises were held during Planning Committee meetings. In addition, a one hour in-service training was conducted for the Health Promotion Division on July 15, 1998. A three-hour in-service training and tabletop response exercise was conducted for the Family and Community Health Services Division on July 17, 1998.

Outcomes and Conclusion

Monterey County is a County which has had considerable disaster response experience over the years. While the efforts of individuals to prepare for disaster medical response was commendable, the new Health Department Disaster Plan represents an improvement in that it provides a means of maintaining a comprehensive plan and Standard Operating Procedures. An additional benefit of the planning effort has been the renewed understanding of each Division's response role within SEMS and the opportunity to coordinate across Divisions during planning and actual response. This project represented the first time the Divisions within the Health Department met to coordinate a division-wide planning process. The result was a greater understanding of the skills and resources inherent in the Department. The project also provided an opportunity to network across Divisions and establish working relationships that will be vital during actual response. Specific project products include: The Health Department Plan; Six Division Standard Operating Procedures; Department Operations Center (DOC) supplies and Critical Staff Disaster Kits in place; and training and response exercise materials.

First Responder Provider & CQI

Grantee:
Mountain-Valley EMS Agency
Project Number: EMS-7020
Project Period: 07/01/97-06/30/98
Project Amount: $77,660.00

EMS Administrator:
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Introduction

In FY 1996-97, the Mountain-Valley EMS Agency developed a program for the evaluation of Base Hospitals and Advanced Life Support (ALS) components of an organized EMS system. The program was implemented in early 1997 and continues to be developing into an effective approach to evaluating system performance. To fully complete the evaluation of all components of the system, it was recognized by the EMS community that two additional components needed to be developed and integrated into the existing CQI program. Therefore, in July of 1997, the Mountain-Valley EMS Agency began to develop indicators for first responder and dispatch components of the system. The addition of these two components would bring the existing CQI program to a more comprehensive level.

Project Description

This project was undertaken to establish a process which could evaluate first responder and dispatch component performance. By using existing local EMS system data and published literary resources, the project objective was to develop a process to monitor performance by showing statistical variation and comparisons to established benchmarks:

METHODS: The process involved four primary steps:

1. Community Consensus

A panel of local EMS experts in first responder and dispatch were assembled to provide collegial input and operational insight to the project. The panel developed specific questions regarding the components and developed a list of specific first responder and dispatch indicators. The list of indicators were further defined through consensus.

2. Local System Variation Analysis

A process was defined by the panel with the facilitation of the project coordinator. Local system data was abstracted specific to each indicator and plotted over a twelve (12) month period. The median, mean and statistical control limits were calculated. Indicators were then tested for special or common causation.

3. Benchmark Analysis

Medical literature searches were performed for each indicator. Searches focused on abstracting benchmark performance data of similar systems from published medical literature. Benchmark data was extracted in the original statistical format for comparison to existing data generated within the local system.

4. Structure and Process Development

An organized structure and process for collegial evaluation was defined. The process identified steps for system evaluation based upon analysis of variation and comparisons to benchmark indicators.

Outcomes

A total of twenty-two (22) indicators were established during the study period. Fourteen (14) indicators for the first responder component which were classified as; seven (7) structural; three (3) process and four (4) outcome. The dispatch component generated eight (8) indicators which were classified as; four (4) structural, two (2) process and two (2) outcome. A process to classify, define, and analyze for statistical variation was developed for each indicator. Benchmark standards were assigned to each indicator for comparisons. Process steps were developed and recorded.

Conclusion

A model for EMS system evaluation of first responder and dispatch components was developed and recorded using statistical control charts and benchmark quality indicators. This process will be integrated into the existing Mountain-Valley EMS system structure and will be used as a catalyst to promote collegial review and action to improve the local EMS system.

Statewide EMT Registry

Grantee:
Mountain-Valley EMS Agency
Project Number: EMS-7021
Project Period: 07/01/97-06/30/98
Project Amount: $56,000.00

EMS Administrator:
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Introduction

Each of California's 32 local EMS agencies are responsible for issuing and monitoring statewide certification for EMT-I and EMT-II personnel in their EMS systems. However, the EMS Authority and many LEMSAs have determined that there is a need for tracking and monitoring EMT-I and EMT-II personnel in a single registry on a statewide basis. This need is especially evident regarding personnel who have had action taken against their certificates. Toward this end, the necessary software is being developed under this 2 year project.

Project Description

This projects first year objectives included:

- Registry planning
- Collection of EMT personnel data from Local EMS Agencies (LEMSAs)
- Registry programming/testing/ debugging
- Development of import programs to import EMT personnel data from LEMSAs into the registry

Tasks/Methodology

All work of this project was performed by CompuCounsel Consulting. Programming was all performed in Visual FoxPro 5.0 Windows 95/Windows NT. All software developed for this project is network capable.

During the last quarter of 1997, LEMSAs were surveyed to determine what electronic EMT personnel data they had available. After completion of the survey a request was made to the LEMSAs for their data. The work of developing import programs for the data received began during 1998.

Outcomes

The following products were produced under this project:

- An initial version of the EMT Registry including all desired fields, an Edit/Add/Browse module, security features, and reporting capability.
- Import programs were completed for data from LEMSA's using EMS Data Pro, and the programming of import programs for other formats was started.

Conclusion

The first year of this project has produced a strong, flexible registry that will meet the needs of the Authority and LEMSA's well into the future.

The second year of this project will produce additional import programs for LEMSAs that have submitted data, and will

produce secured, on-line lookup capabilities, and data update capabilities for LEMSAs.

Database Management System Enhancement

Grantee:
Mountain-Valley EMS Agency
Project Number: EMS-7022
Project Period: 07/01/97-06/30/98
Project Amount: $75,240.00

EMS Administrator:
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Introduction

In an effort to promote statewide EMS system evaluation and quality improvement, the EMS Authority has been aggregating data from local EMS agencies since FY 95/96. However, until the completion of the Statewide Aggregate Database System, which was completed as a part of this project, the Authority had no means of manipulating and reporting on the data collected without the assistance of an outside programmer and data analyst.

EMS Data Pro, a Windows 95 and Windows NT compatible data system, used by more local EMS agencies in California than any other system, received a multitude of major enhancements that made it even more powerful during this project.

Project Description

This project included the following work:

- Maintenance and Reporting of Statewide Data
- Statewide Aggregate Database System Development
- EMS Data Pro Enhancements Development
- Development of Documentation for EMS Data Pro and The Statewide Aggregate Database System
- Training of EMS Authority personnel in the use of The Statewide Aggregate Database System
- Distribution and Continued Support of EMS Data Pro

Tasks/Methodology

All work of this project was performed by CompuCounsel Consulting. Programming was all performed in Visual FoxPro 5.0 for Windows 95/Windows NT. All software developed for this project is network capable.

Outcomes

The following products were produced under this project:

- Reports and estimates from Statewide Aggregate Data submitted by LEMSAs
- The Statewide Aggregate Database System
- EMS Data Pro, Version 1.6

Conclusion

This project made a much more powerful data system available to LEMSAs and their EMS providers and hospitals. The new system even greatly simplifies submission of reports to the Statewide Aggregate Database.

This project produced The Statewide Aggregate Database System, which makes it

possible for the EMS Authority to independently generate reports and statewide estimates from aggregate data submitted by the LEMSA's.

Operational Area Disaster/Medical Health Coordinator

Grantee:
Mountain-Valley EMS Agency
Project Number: EMS-7023
Project Period: 07/01/97-06/30/98
Project Amount: $30,000.00

EMS Administrator:
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Introduction

The Mountain-Valley EMS Agency had worked for several years in the development of the Operational Area Disaster Medical/Health Coordinator role and responsibilities in relationship to medical and health resource ordering and resource tracking. However, it became evident that there was a lack of operational activity during a disaster or state of emergency within the medical/health community and its interface with the Operational Area EOC.

Project Description

This project was designed to develop a tool for the oversight and coordination of the medical and health response to a disaster or state of emergency through the Operational Area EOC. The objectives were:

1. To establish a Medical/Health Advisory Committee.
2. To develop a Medical/Health Disaster plan, based upon S.E.M.S..
3. To conduct a regional Medical/Health Conference.
4. To assist local counties to customize their Disaster Plan.
5. To establish a Medical/Health Resource Information Database.

Methodology

Representatives were solicited from the medical/health community in Stanislaus County, one of the six member counties of the Agency to form a Medical Advisory Committee. A draft Medical/Health Branch of an Operational Area EOC organizational chart was developed and presented to the Advisory Committee. Draft position checklist were then developed, based upon the Medical/Health Branch organizational chart. These were both revised several times by the committee during the course of the project.

A blank Medical/Health resource/ communications directory, containing columns for the names and contact information for each of the positions in the Medical/Health Branch of the Operational Area EOC was developed. This was then mailed to the various agencies to obtain their contact information.

The Final Draft Plan was mailed to Medical/Health providers in all six member counties for 30 day review and comment. Revisions were then made to the Medical/Health Branch manual, based upon comments received.

A Medical/Health conference was conducted to introduce medical and health providers to their role and responsibilities in an Operational Area EOC. Speakers for the conference were then solicited from the State EMS Authority, State OES, State Mental Health and the Regional Disaster Medical/Health Coordinator. The conference began with an EOC simulation exercise. As

conference participants arrived, they were asked to check in and were provided with an EOC name badge and an EOC Medical/Health Branch manual. Participants were then shown to the appropriate group table within the conference room. The group was then briefed to the current simulated state of emergency by the EOC Director, then by the Operations Chief, and finally by the Medical/Health Branch Director. Participants were then walked through the Medical/Health Manual and tasked to develop objectives, based upon the information received. The afternoon portion of the conference consisted of disaster response information provided by the various speakers.

The completed Medical/Health Branch manual was provided to the OES Coordinator within the member counties of the EMS Agency. Ongoing support is provided by EMS Agency staff to each member county to customize the EMS component of the disaster plan.

A Web Site was then developed for the EMS agency with a specific page for medical/health resource requests. The state's RIMS Resource Request form was duplicated with the ability of providers to submit a request online, which is received via e-mail at the EMS agency. Additionally, a database was established at the EMS agency of local providers and EMS resources.

Outcomes

A Medical/Health Branch of an Operational Area EOC manual was developed, including checklists for each position, a Medical/Health Branch organizational chart and a Medical/Health Directory.

A Web Site was also developed (www.mvemsa.com), including an electronic (e-mail) Resource Request form, based upon the state's RIMS resource request form.

Conclusion

Since this type of document had not existed in any of the member counties, this provided a much needed organizational tool for the medical/health response and coordination in the Operational Area EOC.

Our new Web-based Resource Request form has not been used during any actual incident, but is anticipated to improve our ability and speed of communicating with the medical and health providers from all of the member counties of the EMS Agency.

Automated Data Collection

Grantee:
Napa County EMS Agency
Project Number: EMS-7024
Project Period: 07/01/97-06/30/98
Project Amount: $71,900.00

EMS Administrator:
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(707) 253-4341

Introduction

Napa County has a population of approximately 118,000 and covers an area of 794 square miles. Napa County prehospital providers respond to over 12,000 requests for EMS services annually. Each patient response required completion of the prehospital care report (PCR) form which had been manually written and any data had to be manually retrieved by EMS agency staff and the base hospital coordinators. This did not allow for relevant data to be input or retrieved in a timely and efficient manner and did not provide EMS data reports. The California State Emergency Medical Services Authority approved the block grant special project proposal for an "Automated Data Collection System" for fiscal year 1997-1998.

Project Description

The primary goal of the project was to implement and manage a comprehensive Countywide EMS automated prehospital data collection system which would support the quality improvement and the monitoring activities of the Napa County EMS Agency.

Project Objectives

Objective 1: To purpose the appropriate hardware and software to enable the Napa County EMS Agency to process the information and data gathered on EMS activities within the County in an efficient and timely manner.

Objective 2: To establish a Data Task Force with representatives of the Napa County EMS system who have an understanding of CQI principles.

Objective 3: To modify and install the EMS data collection program at the base hospitals, provider agencies and EMS Agency.

Objective 4: To train all appropriate staff at the provider and EMS Agency level in the use of the EMS database program.

Objective 5: To activate the data entry programs.

Objective 6: To evaluate system performance and implement on-going reporting mechanisms.

Tasks/Methodology:

The Napa County EMS Agency met with the proposed data project contractors and the specifications needed for the automated data collection system were determined. County approved vendors were contacted for pricing and the equipment was purchased.

The Data Task Force committee membership was determined utilizing the EMCC. Agencies represented on the Data Task Force committee were from the Trauma Center, Base Hospital, ambulance services, City Fire departments, EMS aircraft and the EMS Agency. The Data Task Force committee met quarterly and was involved throughout the data implementation process and actively involved in the system modifications.

The Napa County EMS Agency contracted with the developers of the EMS data program for the customization of the data system, setup and installation for the 17 computer systems and training classes. The data system consultants modified the data collection system to include County specific data element incorporation into the database program.

Outcomes

The automated data collection system was implemented on January 1, 1998.

The Data Task Force determined the reports to be generated by the automated data collection system that measure the critical indicators of the system to insure that system effectiveness can be measured and established. The reports generated by the automated data collection system meet the County CQI standards and utilizes a data set that meets the California State EMS data systems standards and the California State uniform prehospital data set.

Conclusion

The project met its objectives and the automated data collection system was implemented county-wide. All transport personnel input PCRs into the automated system including both EMT-paramedics and EMT-I's. The data system is meeting the reporting components as identified in the County CQI program.

Napa County recently received approval for second year funding for a data collection system grant project that will integrate the computer systems into a SQL repository that will enable the EMS Agency, hospitals and provider agencies and personnel to dial into a central repository from another location to retrieve information.

Communication Assessment

Grantee:
NorCal EMS Agency
Project Number: EMS-7025
Project Period: 07/01/97-09/01/98
Project Amount: $94,000.00

EMS Administrator:
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Redding, CA 96002
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Introduction

Emergency medical communications is a critical element of an EMS system, yet the status of statewide resources and capabilities in California is unknown. Previous studies have documented that comprehensive EMS communications systems are missing elements in rural areas of the state, but a statewide assessment has not been conducted. Ultimately California needs an EMS communications plan to guide it to the future.

Project Description

During this project Northern California EMS, Inc. conducted and wrote a statewide resource inventory of EMS communications systems, conducted an EMS communications system needs assessment and proposed an outline for the development of a statewide EMS communication plan. This study also evaluated technology growth and its potential role and connection with EMS communications. The outcome of this project is a final report of findings relative to the needs assessment, a comprehensive Statewide EMS Communications Resource Manual and an outline for a future state communication plan.

Tasks/Methodology

The goals of this project were to determine the status of EMS communications in the state and identify EMS communications resources and needs in order to develop recommendations for a State EMS Commissions Plan. The following five key objectives were established to achieve this goal.

Objective 1 - Contractual Obligations

Objective 1 included ensuring that all contractual obligations with the State EMS Authority were executed and funding advances were obtained, contracting with the EMS communications consultant, The Abaris Group, and preparing quarterly reports and the final report.

Objective 2 - Research and Review of Existing Documents

This required conducting a review of the current status of EMS communications by reviewing existing resource documents, local EMS agency EMS plans, conducting interviews, preparing and distributing mail surveys, and performing site visits. Also, other state EMS systems were researched and reviewed to identify successful methods, plans, and approaches taken for EMS communications systems.

Objective 3 - Form Statewide Communications Steering Group and Conduct Focus Group Interviews

A Statewide Communications Steering Group and focus groups were formed to provide overall study direction and input on the recommendations of this project.

Objective 4.0 - Final Recommendations
Utilizing research and information acquired through the activities in Objectives 1 through 3, a needs analysis and an EMS Communications Resource Manual were produced. In addition, a proposed outline for a statewide EMS communications plan was prepared.

Objective 5.0 - Solicit Input from State EMS Authority
Throughout all phases of this project, input and direction from the State EMS Authority was solicited.

Outcomes

All project objectives were met and completed fully. As a result of this project, three documents were produced:

(1) Statewide EMS communications needs assessment (contained in the Final Report);
(2) Statewide EMS Communications Resource Manual; and,
(3) An outline for the development of a complete statewide EMS Communications Plan (contained in the Final Report).

Conclusion

The purpose of this study was to provide the initial research for the development and implementation of a state EMS communications plan. This study has identified the current status of EMS communications in the state as well as determined areas of need.

Key conclusions include:

(1) A statewide EMS communications plan is needed.

(2) Statewide guidance and standards are needed in a multitude of areas relative to EMS communications including:

   A. Statewide training standards for communication personnel.
   B. Technical assistance to remove or mitigate barriers to quality EMS communications systems.
   C. Assistance with funding sources.
   D. Leadership on key needs not otherwise covered by the above (e.g. single mutual aid EMS frequency in the state).

(3) There is significant support for the California EMS Authority to take on a significant leadership role on this subject.

Attention will now be focused during year two on developing a comprehensive EMS communications plan.

An effective statewide communications plan will ensure consistency across the state in EMS communications regardless of region. This plan will provide uniform direction and standards for EMS communications with consideration for the varying needs of the diverse regions in California. As a result, EMS providers throughout the state will experience an increased in efficiency and effectiveness in rendering emergency medical services as well as a decrease in cost. The statewide communications plan will ensure that current EMS communications needs are identified, goals established to resolve these needs and serve to guide the state towards the future.

Regional Disaster Medical Health Coordinator (RDMHC)

Grantee:
NorCal EMS Agency
Project Number: EMS-7026
Project Period: 07/01/97-06/30/98
Project Amount: $39,800.00

EMS Administrator:
Dan Spiess
970 Executive Way
Redding, CA 96002
(530) 221-7900

Introduction

Upon assuming RDMHC responsibilities for mutual aid region III, Nor-Cal EMS began the process of familiarization with state – promulgated plan concepts and identification of key system participants throughout the region. Regional coordination for disaster response purposes had, historically, been non-existent and much of the time and effort expended in this project has centered around pulling diverse agencies together to realize a common purpose.

Project Description

The project's goal continues to be the improvement in preparations for disaster response through coordination of resources from the operational areas, through education of regional personnel and by providing a mechanism for coordination of resources between operational areas and the state.

Some of the major objectives of this project, as identified by EMSA, are as follows:

To establish, by 30 June 98, a Regional Disaster Medical/Health Response Plan and Standard Operating Procedures in concert with the Standardized Emergency Management System (SEMS) and RDMHC guidelines as issued by the State. If a plan has been developed and approved by the County Boards of Supervisors, then continued development and maintenance of the plan is required.

Facilitate the development of operational area medical/health mutual aid agreements with participating counties throughout the region for the coordination and acquisition of medical resources to aid in a disaster response.

Facilitate the appointment of Operational Area Disaster Medical/Health Coordinators.

The RDMHC will, upon appointment to the position and commensurate with his/her responsibilities as identified by the RDMHC Response Plan and Standardized Emergency Management System (SEMS) Guidelines, take the necessary steps to ensure that SEMS training is provided to all new staff.

Establish periodic meetings with operational area disaster medical/health coordinators and any regionally established emergency management counterparts from related disciplines (OES, fire, law enforcement) to discuss, develop and implement the Regional Disaster Medical/Health Response Plan and component elements. These meetings could include regionally organized public and environmental health planners, hospital representatives, the American Red Cross and health care facilities planners.

The RDMHC will participate as an expert consultant and technical advisor on any EMSA committees, conferences, etc., as

necessary for the advancement and/or discussion of disaster medical/health planning issues.

Tasks/Methodology

In keeping with the agreement with EMSA, Nor-Cal EMS has provided the RDMHC function during the winter flooding as well as during training exercises and alerts. To support this process, a functional communications plan has been developed and is updated periodically. Much of what has been accomplished has resulted from the regional meetings with health officers, county OES officers, home health, regional OES, EMSA, DHS, RACES, CVMA and others. These meetings have provided an excellent forum for development of a cooperative agreement, SEMS information dissemination and general system identification. Not surprising in a large, rural region, the quarterly meetings have proven to be the primary vehicle for individuals from diverse disciplines to become familiar with each others' roles and to develop an awareness of the statewide picture of the disaster response system.

Outcomes

Working relationships between counties, the region and the state have grown stronger and, generally, a better understanding of the medical assistance system as applied within SEMS has developed. The cooperative agreement developed for the region, once established as a legitimate working document, will provide a cornerstone for further planning and response.

Conclusion

Most aspects of this project are evolving positively. More operational area elements are participating with regional personnel and have helped to move the region closer toward an organized system. Careful planning and close cooperation between state agencies will be needed to provide reliable guidance to this region and others seeking to develop reliable networks and valid, flexible plans.

Emergency Medical Services for Children (EMSC)

Grantee:
NorCal EMS Agency
Project Number: EMS-7027
Project Period: 07/01/97-09/30/98
Project Amount: $75,000.00

EMS Administrator:
Dan Spiess
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Redding, CA 96002
(530) 221-7900

Introduction

In the 1980s, NorCal EMS conducted an innovative project to bring an Emergency Department Approved for Pediatrics (EDAP) program to a rural area. Widely considered a very successful effort, by 1996 the program showed its age. In an effort to provide a more "state of the art" program and update the products and activities for pediatric patients, the agency embarked on two single-year projects.

Project Description

This project was a follow-on to the previous year's EMSC project. This effort was planned from the outset as a two-year undertaking. The second project served to implement programs and guidelines developed during the first, and to complete tasks and objectives begun in that earlier project.

The project sought to: Maintain the EMSC administrative and organizational structures; complete development of a regional EMSC plan; implement appropriate prehospital services; complete implementation of regional EMSC ED guidelines; complete implementation of coordinated interfacility transfer mechanisms; complete implementation of EMSC trauma center guidelines; implement recommendations for, and integration of, injury and illness prevention programs; implement recommendations for pertinent prehospital information management and data collection; assure adequate pediatric rehabilitation services; and, collect and report cost assessment data.

Tasks/Methodology

A project consultant--an RN with comprehensive experience with EMSC system development in California, and a coordinator were recruited and contracted to provide staff work for the project. The consultant provided indispensable expertise. Although, the project enjoyed the participation of many clinicians with pediatric experience, the consultant's background in coordinated EMSC system development and experience with similar efforts was essential.

The region's multi-disciplinary EMSC Task Force was maintained, including field provider leadership, ED, pediatric, and ICU nurses, physicians including emergency, adult and pediatric intensive care, other pediatric specialties, agency staff, and others. Task force meetings were held frequently, with subcommittees meeting as each deemed necessary. Meetings were informal, consensus-driven discussions. This task force served as the primary research, monitoring, product development and advisory resource throughout the project.

The collection of EMSC resource materials begun in the first year's project was enhanced, providing a comprehensive collection. Updated lists of items were

provided to keep task force members and others current.

A major component of this project was conducting ED consultation site surveys. Teams of three (physician, RN and EMS agency staffer) conducted the visits in coordination with hospital administration representatives, ED nurses, and ED medical directors.

Outcomes

The EMSC Task Force continued to receive enthusiastic participation and support from the region's EMS and pediatric communities and the EMS agency, and seems set to guide pediatric care issues for the foreseeable future. Products and outcomes of the project include: draft pediatric prehospital care protocols, now undergoing regional protocol revision process; Interfacility Consultation and Transfer Guidelines and a reference poster; a plan for future activities of the EMSC Task Force; collection and submittal of EMSC cost data; identification of shortcomings of the current trauma registry and patient reporting and data management programs; selection of top candidates for replacement programs; updates of a number of products of the FY 96-97 EMSC project; and, a regional EMSC plan draft.

Less tangible, but nevertheless important, are outcomes such as new and renewed partnerships in injury and illness prevention/public education, the sustained commitment to, and effectiveness of, the EMSC Task Force, and the refreshed focus of the local agency on EMSC issues.

Conclusion

This project maintained and reinforcement the structure and methods to establish and carry on a comprehensive EMSC system in the NorCal EMS region which will provide continuing evaluation and evaluation of pediatric emergency care across the whole spectrum of EMS. Many worthwhile products were developed, completed, and implemented as described in the Outcomes section. These will serve both the Northern California EMS region, and others working to implement or update EMSC programs elsewhere.

Perhaps the most worthwhile benefits of this project and its predecessor are the establishment of a contemporary and effective foundation for EMSC program administration, renewed enthusiasm and focus on pediatric emergency care and injury prevention issues in the region, and the enthusiastic participation of the EMS community in the EMSC Task Force as an ongoing feature of the EMS system. The groundwork laid during these projects will promote an effective EMSC system which will serve the residents of and visitors to the eleven northeastern California counties for many years to come.

Emergency Medical Services for Children (EMSC)

Grantee:
North Coast EMS Agency
Project Number: EMS-7028
Project Period: 07/01/97-11/30/98
Project Amount: $76,000.00

EMS Administrator:
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Introduction

The North Coast EMS (NCEMS) region includes Humboldt, Lake, Del Norte, and southern Trinity counties in California. These primarily rural counties have a population of 215,000 living in an area of 6,000 square miles. Eight hospitals serve the area with six being previously recognized as Emergency Department approved for Pediatrics (EDAP) facilities. No PICU or PCCU capability exists in the region. The purpose of this project was to develop and implement a comprehensive Emergency Medical Services System for Children in the region through the accomplishment of eight specific multifaceted objectives. The Northern California Safety Consortium (NCSC) was contracted as the consultant to NCEMS for this project.

Project Description

A centralized EMSC program was established as part of the EMS system to ensure quality emergency medical care for all children and to facilitate the involvement of EMS personnel in injury prevention. This project was conducted between October 1, 1996 and November 30, 1998.

Objectives

Injury and illness prevention programs for prehospital personnel were adapted and implemented. Targeted PSAs, and a training program based on the developmental stages of a child were developed and distributed. Policies, protocols and equipment lists were modified and implemented and base hospitals were provided with updated and expanded protocol cardex based flip charts for advanced life support procedures. A Pediatric Emergencies for Paramedics (PEP) based CE program was developed and incorporated in a new skills manual. Orientation and train the trainer programs were conducted to the newly developed Seldom Used Skills Manual. New EDAP guidelines were adopted, site visits were conducted, and the two hospitals that were not previously EDAP facilities became EDAP facilities. Pediatric Liaison Nurse meetings were conducted and quality improvement standards were discussed. Critical Incident Stress Management training was brought to the region to allow for expansion of critical incident stress management teams and the establishment of a community based post recovery team. The participation of EMS personnel on the county Child Death Review Team was established. Remote learning capabilities in the region were surveyed.

Tasks/Methodology

Objectives of the project were accomplished by the NCSC team through use of surveys, personal interviews, and questionnaires distributed to EMSC task force members. Medical Advisory Committees in Humboldt and Lake County were utilized to

evaluate policy and procedure changes. Drafts of all products were broadly circulated for comments. Training programs were conducted in Lake and Humboldt counties in Critical Incident Stress Management, implementation of the Safety Awareness for EMS (SAFE) program, and the Seldom Used Skills Day manual.

Outcomes

New policies, procedures and equipment lists have been distributed. Base hospitals have new ready reference flip chart protocols. EMS providers have referral directories for children and other social services in Lake and Del Norte counties, and a single referral resource for all social services in Humboldt County. Pocket referral guides for EMS personnel are available for Humboldt, Del Norte, and Lake counties. A series of Public Service Announcements (PSAs) are available for airing focused on the three most prevalent causes of child death in the region. A Skills Manual is available to all continuing education providers in the region. This manual includes all seldom used advanced life support skills utilized in the region as well as a section on pediatric assessment and basic airway management.

Conclusion

The NCEMS region has a comprehensive EMSC program in place. Prehospital personnel have readily available resources for children's service referrals, current protocols, an improved understanding of their role in injury prevention, and a comprehensive continuing education program in place to ensure competency in seldom used skills. A public education campaign in injury prevention has been initiated, the basic training required for the establishment of a community based post recovery team has been completed, and all eight hospitals in the region have been designated as EDAP facilities.

School Based Violence Prevention

Grantee:
Riverside County EMS Agency
Project Number: EMS-7029
Project Period: 07/01/97-12/31/98
Project Amount: $25,000.00

EMS Administrator:
Michael Osur
P.O. Box 7600
Riverside, CA 92513-7600
(909) 358-5029

Introduction

Youth Violence is a major preventable public health problem in the United States. It has been accepted as a way to resolve conflict and as a means of retaliation. Teens are faced with added problems of often being misunderstood and invalidated by adults and other teens. A teenager's sense of value and self-worth can be greatly diminished by lack of job opportunities, by inadequate or disinterested teachers, as well as by law enforcement officers who do not take seriously the needs of teens (In Touch With Teens Curriculum, 1993). Over 30% of high school students interviewed, have witnessed or have been the victim of a violent incident. In neighborhoods with more gang involvement, over half of this population has been involved in some type of violence.

Violent incidents involving teens which were reported to Riverside County law enforcement agencies range from parental abuse to dating violence, to gang conflict. In the 1980's, as part of public education efforts, domestic violence programs all over the country addressed high school students. Approximately 28% of young people experience violence in a dating relationship, about the same rate as adult domestic violence. It happens in all communities, regardless of ethnicity or class, whether urban, suburban or rural.

The Los Angeles Commission on Assaults Against Women (LACAAW) developed curriculum which offers teens the tools to break the silence, challenging them to think about sexual violence, to understand how and why it happens.

Project Description

The Riverside County Emergency Medical Services Agency expanded the existing school based violence prevention program which was originally piloted in the City of Lake Elsinore throughout Riverside County. The intent was to tailor existing curriculum content and methods to specific age group and target a variety of student populations. The goal of the school based violence prevention program was to educate alternative middle and high school students through a curriculum designed to define prescriptions for healthy relationships, learn problem solving skills surrounding relationship conflicts and to develop measures toward building self esteem.

Tasks/Methodology

The goal was accomplished by providing Train the Trainer seminars to teachers and other interested professionals. A consultant was hired to review the curriculum and to conduct the Train the Trainer seminars.

Two violence prevention curriculums were reviewed for content and ease of use. The first curriculum was the Violence

Prevention Curriculum prepared by Tracy Peterlin, for the EMS Authority Special Project Grant #EMS-5048. The second curriculum was the In Touch With Teens curriculum developed by the Los Angeles Commission on Assaults Against Women (LACAAW).

The LACAAW In Touch With Teens curriculum was selected because of its content and ease of use. It is designed for adolescents aged 12-19, so there was no amending needed prior to beginning the Train the Trainer seminars. The curriculum was reprinted with permission from the State Office of Criminal Justice. The necessary handout materials were ordered and printed.

The EMS Train the Trainers Seminars were entitled Healthy Adolescent Relationship Program (HARP) workshops. Flyers announcing the training were reprinted and distributed throughout the county. Presentations were conducted to the Riverside County Office of Education Safe & Drug Free Schools & Communities meetings. This group consists of educators and administrators throughout Riverside County.

Outcomes

Five Train the Trainer HARP workshops were conducted at the Riverside County Department of Public Health, Mental Health and Public Social Services. Teachers and Safe & Drug Free School Coordinators, several Riverside County School Districts and School for the Deaf also attended. Community agencies included; Rape Crisis Center, alternatives for Domestic Violence, Family Services Association, YWCA, pregnant minor programs as well as church organizations.

Seventy-nine participants attended the training seminars. The evaluation received from participants showed a favorable response. Comments included a need for future seminars to be longer. Participants felt the curriculum was easy to use, and relevant to the problems that they currently deal with in their respective roles. We received positive feedback from the Riverside County Office of Education where the seminars were held. We are still receiving inquires regarding future training.

Conclusion

The EMS Agency Director is committed to continue this program with future seminars held in the desert communities. The seminars will be lengthened to six hours, giving the participants more opportunity to practice the activities contained in the curriculum. This was a great opportunity for the EMS Agency to provide a valuable program for our county.

Grief Support Training

Grantee:
Riverside County EMS Agency
Project Number: EMS-7030
Project Period: 07/01/97-12/31/98
Project Amount: $40,000.00

EMS Administrator:
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Introduction

In 1995, Riverside County EMS Agency surveyed its 9-1-1 personnel regarding their ability to provide bereavement support in the field. This survey revealed that a majority of personnel not only felt inadequate in their ability to provide grief support, but also perceived this task as a source of extreme stress on the job. Eighty-seven percent of the respondents said they would attend a training program in grief support.

In 1996, the Agency instituted new protocols redefining death in the field. These new protocols broadened the circumstances in which paramedic's determined death in the field. This also resulted in less transports of "non-viable" patients to hospitals. All of which has resulted in 9-1-1 personnel on a greater frequency communicating to families the news that a loved one has died. This is undoubtably one of the, if not the most difficult task that 9-1-1 personnel perform.

Project Description

In July 1997, the Riverside County EMS Agency obtained funding to develop and implement a grief support program. Rather than, "reinventing the wheel", the intent was to utilize an existing program with a proven value. Several other 9-1-1 agencies have developed and implemented some sort of grief support training within their system. One of these programs, San Francisco EMS Agency (SFEMS) was developed through state grant funding. The SFEMS program has been active for six years and has refined its curriculum through the constant feedback from its EMS community. Consequently, this program has been proven to be a valuable tool for grief support training in the field.

The goal of the Agency was to develop a comprehensive grief support program utilizing the SFEMS model. The program would be tailored to meet specific Riverside County needs. Once the program curriculum was finalized, Riverside County would advertise and conduct county-wide "Train the Trainer" workshops. This would create a pool of qualified instructors to provide on-going training throughout the county.

Tasks/Methodology

The goals were accomplished through several methods. A grief support survey was developed and was distributed to every 9-1-1 responding agencies county-wide. This included both city and county fire departments, private ambulance companies, air transport services and law enforcement agencies. This simple survey ascertained grief support information regarding level of interest, amount and depth of training, and perception of skill level. **80%** of the agencies completed and returned a survey. **100%** of the respondents indicated strong interest/need in their

personnel receiving bereavement training.

Utilizing the Grief STEP Program™ as the template and information gleaned from the survey responses, a student work book was customized for Riverside County. In addition, supporting class evaluation forms, post tests, grief booklet, coroner pamphlet and pocket reference guides were developed. Riverside County titled the program, *Grief Support for the 9-1-1 Professional.*

The grant experienced a shift in focus in May 1998. The Agency emphasized the training of both fire and law enforcement as well as ambulance, Advance Life Support (ALS) personnel. Also, it was decided to conduct initial basic four-hour grief support "pilot" training rather than "Train the Trainer" classes.

The City of Corona volunteered to pilot the grief support program. Training was coordinated jointly with both the fire and police departments. In addition, the private ambulance company, American Medical Response (AMR), and several local community grief support organizations were invited to attend training. Finally, the largest regional newspaper, *The Riverside Press Enterprise* was invited to attend training.

Outcome

Training was scheduled to accommodate all three fire department shifts on three consecutive days. Each day, two, a morning and afternoon, four-hour class sessions was conducted. Class size was limited to 25 to encourage class participation.

Ninety three participants attended a training session. The entire fire department field personnel attended training as well as two Battalion Chiefs. Also, 14 Corona Police Department personnel received training. Other participating agencies were 2 Corona 9-1-1 fire/police dispatch supervisors, 2 Riverside County EMS Specialists and 2 representatives from the Corona crisis intervention program, Trauma Intervention Program (TIP). Finally, the reporter assigned to cover the grief support program actually attended and participated in an entire four hour class session.

The program was successfully piloted in the City of Corona. Overall, the class was received and evaluated positively. Several of the participants indicated their interest to become a "Trainer" when available.

Conclusion

Death and bereavement support is a very difficult and uncomfortable subject to discuss. Creating a safe environment for participants to share personal and often highly emotional experiences was a challenge. The Riverside County EMS Agency is currently working on the implementation of the second phase of grief support training county-wide. Future goals will be to develop specific bereavement training components which address children and cultural diversity.

Regional Disaster Medical Health Coordinator (RDMHC)

Grantee:
San Bernardino, Inyo, Mono EMS Agency
Project Number: EMS-7031
Project Period: 07/01/97-06/30/98
Project Amount: $80,000.00

EMS Administrator:
Diane Fisher
164 W. Hospitality Ln. Ste. 4A
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(909) 888-7511

Introduction

The intent of this project is to formalize, implement and continue to exercise activities which are deemed appropriate to the goals of the Region VI Disaster Medical Health Coordination Committee. The project will support the California EMS Authority efforts to minimize the possibility of a disastrous post traumatic situation. Region VI consists of Imperial, Inyo, Mono, Riverside, San Bernardino and San Diego Counties.

Project Description

The project has several objectives and many tasks. The objectives can be grouped into three categories. They are:

1. Develop and maintain agreements among the eleven southern California member counties for purposes of obtaining and organizing medical and health assistance. Develop and maintain agreements between Regions I and VI for purposes of resource acquisition and deployment.

2. Contact and coordinate with the other State Office of Emergency Services Region VI Coordinators such as for Law, Fire, Care and Shelter, Public Utilities and with Federal Emergency Management (FEMA) personnel for assistance in post disaster recovery.

3. Develop and maintain a region wide communications network for use by the Health Officers and their staff either during a disaster or for routine communications.

Tasks/Methodology

The above were addressed through a tasking management system. Within the Region the OADMHC staff are the ones who provide the contacts, produce the work and secure the approvals or concurrences necessary to comply with the Regional objectives. The method used to obtain working relationships is based upon understanding of the problem and training provided to those new to the planning principles of disaster prevention. Methods minimally include reliance upon legal obligations or direction. While there may be one or two key staff during the development of this project, it is intended that the framework or project be maintained through the interaction of the counties or operational areas.

Outcomes

This project was able to utilize the expanded six county mutual aid agreement (Region VI) within and on behalf of the five counties in Region I (Orange, Los Angeles, Ventura, Santa Barbara and San Luis Obispo). This agreement expansion increased the

number of health officer participants to eleven and the number of citizens from six and one-half million to eighteen million. During this time period a disaster medical and health emergency plan was developed in Region I within which is included in the plan from Region VI.

This project assisted several entities who were preparing disaster plans. They are Inyo, Mono, San Bernardino and San Diego Counties. The Region VI Local Emergency Planning Committee updated its disaster plan to conform with SEMS terminology.

A hospital mutual aid agreement continues to be developed. The draft is being circulated for comments. A simple flu outbreak in California during the winter of '98 highlighted a number of points regarding hospital care and patient expectations. 1998 will be remembered as the year of the hospital.

Conclusion

Disasters may cause the demands for resources to shift significantly. In those cases where communication and transportation systems can be set in place, resources from non impacted areas can be of immense value. Preplanning is believed to be the most efficient option to provide care and maintain adequate resources throughout impacted areas.

Disaster Medical Assistance Team (DMAT)

Grantee:
San Bernardino, Inyo, Mono EMS Agency
Project Number: EMS-7032
Project Period: 07/01/97-06/30/99
Project Amount: $30,000.00

EMS Administrator:
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Final Report and Abstract Report due August 31, 1999.

Public Information, Education and Relations (PIER)

Grantee:
San Diego County EMS Agency
Project Number: EMS-7033
Project Period: 07/01/97-06/30/98
Project Amount: $16,000.00

EMS Administrator:
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San Diego, CA 92120
(619) 285-6429

Introduction

Public awareness & education about medical services (EMS) system is an essential component of a quality system and is often neglected. Public Information and Education efforts serve to enhance the public's role in the system, its ability to access the system, and the prevention of injuries. EMS personnel need to provide system access information and injury prevention programs to achieve more appropriate utilization of EMS resources and improved patient outcomes. Yet, there was no formal, organized, and standardized public education, information and media relations training program available in the State of California specifically for the EMS industry.

In 1997, the County of San Diego, Division of Emergency Medical Services was awarded a grant to provide two EMS Public Information, Education and Relations (PIER) courses utilizing the National Highway Traffic Safety Administration's national PIER curriculum. Each course was open to EMS personnel designated by their respective agency as Public Information Officers, and to those tasked with creating and implementing public education programs.

Project Description

The EMS Public Information Education and Relations Grant set forth to provide two PIER courses, one in Northern California and one in Southern California. The major objectives involved the planning and instruction of each course. The intent of the grant was to provide funding for the course, books, and materials for the participants. Students needed only to pay for accommodations and meals.

The goal of each course was to promote the development of pro-active EMS PIER programs that raise public awareness, understanding, and participation in the EMS system. The 1 ½ day course included the following topics:

1. Developing and managing PIER programs
2. Media relations
3. On-scene media communications
4. Funding
5. "Grant Writing 101"
6. Impact of managed care on EMS PIER

Upon completion, the students were given course completion certificates from the National Highway Traffic Safety Administration and continuing education units.

Tasks/Methodology

Conference sites were chosen after consulting with potential participants from several agencies throughout California. With the help of many local EMS agencies, an extensive mailing list was compiled. A flyer and registration form that included a brief survey of participant experience and needs was

mailed utilizing the list. Registrations were collected, the survey analyzed and confirmation letters were mailed to participants. Hotel accommodations, catering, audio-visual and video equipment rentals were arranged for each conference.

National Highway Traffic Safety Administration PIER National Faculty were utilized in the course. Steven C. Wood, EMS Specialist, San Diego County Division of Emergency Medical Services, and the Program Coordinator for this grant was the lead faculty. Brian Veerkamp, Assistant Fire Chief, El Dorado Hills Fire Department, was the second faculty. In addition, the National Highway Traffic Safety Administration sent Alyson Coyle of the Transportation Safety Institute as assistant faculty and technical representative. Jean Buchanan, R.N., M.S.N. went as the continuing education and evaluation coordinator and technical representative.

Each participant was asked to keep track of PIER activities on a form supplied during the course. Three months after the course, participants were telephoned to collect the results of the survey. Participants were asked to record new and continuing public education programs, media contacts and information campaigns, and on-scene media events. The results of the surveys from the second course will be included in the one-year post grant addendum report.

Outcome

Both courses went very well and were extremely well received. The major evaluation components for this grant were two-fold; student evaluations and future program development and media contact. The student evaluations for both courses were extremely positive. A five-point objective scale was used to rank several categories. In the major categories of overall course rating and the ratings of the instructors, the composite scores were above 4.5.

Of the participants in the first course, over 70% have implemented new public education programs. One participant from a local EMS agency has even applied to the State of California Office of Traffic Safety for a grant to expand PIER education and training throughout the region.

Only two participants have stated that they have had the opportunity to be the PIO at the scene of a major incident. Both stated the training was very helpful to them. Another participant established standard operating procedures for major media events as well as general information media kits.

Through a formal survey of Palm Springs participants has yet to be performed, some of the participants have already reported the planning and implementation of new programs. The three month survey results for the second course will be included in the one-year post addendum report.

Conclusion

This grant was extremely successful in obtaining its goal of providing formal, standardized, public information, and education training and media relations to participants throughout the State of California. Under the ever-changing environment of managed care, preventions efforts will become tantamount to the success of any EMS system. This training provided the basis for participants to handle the challenges of injury prevention and media relations. This grant will hopefully spawn further PIER activities throughout the state.

Grief Support Services

Grantee:
San Francisco County EMS Agency
Project Number: EMS-7034
Project Period: 07/01/97-6/30/99
Project Amount: $44,000.00

EMS Administrator:
Abbie Yant
1540 Market Street, Ste. 220
San Francisco, CA 94102
(415) 554-9963

Final Report and Abstract Report due August 31, 1999.

Stroke Public Awareness

Grantee:
San Francisco County EMS Agency
Project Number: EMS-7035
Project Period: 07/01/97-06/30/99
Project Amount: $54,000.00

EMS Administrator:
Abbie Yant
1540 Market Street, Ste. 220
San Francisco, CA 94102
(415) 554-9963

Final Report and Abstract Report due August 31, 1999.

Regional Disaster Medical Health Coordinator (RDMHC)

Grantee:
San Joaquin County EMS Agency
Project Number: EMS-7036
Project Period: 07/01/97-06/30/98
Project Amount: $40,000.00

EMS Administrator:
Darrell J. Cramphorn
P. O. Box 1020
Stockton, CA 95201
(209) 468-6818

Introduction

Eight years ago, the ten counties in OES Region IV chose to improve its multi-casualty (MCI) response system. The effort began because of the recognition that the differences in procedures among the counties created problems in field management. It was not uncommon for situations to occur in Region IV where mutual aid was needed, and/or where incidents occurred on border areas. These situations highlighted the differences in MCI response by the prehospital personnel (e.g. terminology, operational plans for response, and triage systems). These differences caused delays in care and disputes on scene regarding management and destination of the patients. It was clear that our responses would be enhanced if we could standardize our way of handling MCIs, disasters and medical mutual aid requests. The State funded this project for three years, before converting the Region's efforts to a maintenance grant.

Project Description

The basic goal of the Project has been to standardize the MCI and the medical/health mutual aid response for the counties in OES Region IV. The grant has been a great success. The necessary political support for change within the Region was and still is strong. The project has been able to bring together EMS, OES, Fire and Law agencies within the Region and with other Regional staff (e.g. fire/law). A MCI Plan was adopted, standardized training/curriculum were developed for all prehospital and hospital components, and key personnel/positions (e.g., OAMHCs, RDMHCs, Disaster Control Facilities) are designated. An MCI Plan that is approved by all counties is in place. The organizational structure and plan used for MCIs is also used for medical/health mutual aid requests. The difference is only in the level of execution of the regional staff. Only those staff or agencies that are needed for specific situation are put into action; the decision of the level of response is based on the situation. For the past four years the State has funded a maintenance grant, which allows the Region IV counties to continue coordination, update the MCI Plan, and continue training and testing the system.

Tasks/Methodology

The Core grant staff positions (Project Director and Project Manager) occupy permanent positions in the EMS and OES Agencies in San Joaquin County. Contract personnel were appointed to coordinate/ manage the perhospital and hospital plans components. The same core staff has been used for the past eight years. In addition, the first years of the grant were spent in identifying the need to standardize within the Region. The support was gained through workshops held throughout the Region. From this effort an Administrative Committee was appointed, with representatives from each

County. The Administrative Committee and project staff direct the activities of the project. Training needs, political strategies for implementation and project tasks were identified and issues were sorted out at this level. A lot of time was spent at the "grassroots" level to generate support and commitment to this project.

Outcomes

After eight years of work, Region IV has an adopted MCI Plan, which also addresses medical/health mutual aid requests. A standardized curriculum is in place for prehospital & hospital training. Instructors are trained throughout the Region. All plans are consistent with SEMS. OADMHCs have been designated in each county with alternates. Annual administrative meetings are held to update plans and identify needs. Several table top and mock drills are completed each year. The Regional Plan has been tested several times by actual disasters (floods of 1997, Oakland fires, etc.) and has provided information to keep our Plan and operations alive.

Conclusion

Region IV counties have greatly improved their ability to respond to MCIs and medical/health mutual aid requests. The success of the Project is directly tied to "grassroots" support, which came about because of the recognition of the benefits of joint planning and standardization. Completion of objectives also help. Medical/Health management for disasters is difficult at best to do--and most do not agree on how it is best done. We found that the system of building a common base of support, adopting a plan, testing it, and revising it annually on a regional basis works. It is an approach that we feel should be used elsewhere in California.

Disaster Response Plan

Grantee:
San Mateo County EMS Agency
Project Number: EMS-7037
Project Period: 07/01/97-06/30/98
Project Amount: $59,996.00

EMS Administrator:
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(650) 573-2564

Introduction

The San Mateo County Emergency Medical Services Agency was awarded a grant to develop a Health Services Department integrated disaster response plan in the 1996 grant cycle. Significant progress was made on this complex project; however, a weak area was identified. The Division plans that are needed to support the Health Services Agency Disaster Plan (HSADP) do not exist. When the project was originally proposed, Divisions were surveyed and the results left the impression that most Divisions did have existing plans, but they needed updating. Later it was discovered that what most Divisions considered its disaster plan was actually a Safety Plan. Most of the Divisions could not locate a disaster plan. When a plan did exist, it was so outdated it will require a complete revision.

The Health Services Agency has identified its administrative disaster response needs and has structured its plan and developed checklists to address them; however, the plan and checklists are futile without the Division disaster plans in place which establish guidelines for supporting the HSADP. Having well developed disaster plans in place for each Health Services Division is an essential component of the HSADP. The plans of the individual divisions form the foundation and infrastructure for the Health Services Agency Disaster Plan, thus supporting its success.

Project Description

The mission of the second year of this project was to develop, and in some cases complete, the Division Disaster Plans. A caveat to this mission (which was an indirect goal of the grant project as it would directly affect the division plans) was to update the Health Services Agency Disaster Plan (HSADP) to the new format of the County's Operational Area Emergency Plan. In coordination with (and as a supplement to) the HSADP, the division plans would adhere to and be based upon the principles of the Incident Command System (ICS) and the Standardized Emergency Management System (SEMS).

The division plans would encompass all components of the Health Services Agency response to disaster, including Emergency Medical Services, Aging and Adult Services, Environmental Health, Public Health, Mental Health, Food and Nutrition Services, Hospital and Clinics, Financial Services, and Health Information & Technology Divisions.

Tasks/Methodology

The division Task Force representatives from the first year of the project obligated themselves to participation for the second year. The Task Force members then identified "Team Members" from their division whose mission was to assist with the development of their division's disaster plan.

The issue of in-depth training for the new team members was discussed, but never pursued by the divisions. Instead, the project coordinator participated in the planning on a more definitive level, providing education and guidance at Division Team meetings.

The next tasks to complete were the development of the checklists and then the complete plans. These tasks turned out to be simple in terms of definition only. It is recommended that the final report be read in order to grasp the brevity of the checklist and plan development processes.

The task of assisting the divisions with the development of checklists was the longest running and most time consuming task in the project. Simply identifying what each division does on a daily basis, the needs of each division in a disaster, and the needs of each division's clients in a disaster did not prove to be as useful as originally anticipated. Instead, a "Checklist Development" reference sheet for division use was created by the project coordinator. The checklist development required constant monitoring and active participation by the project coordinator because of the problems that hindered their development and completion (see Final Report, Problems). The divisions needed help keeping on track and required frequent reminders about the purpose of the checklists and the concept of SEMS. Checklist development continued throughout the project up to the final days.

After the completion of the checklists, the next step in the project was to assist the division with the development of their disaster plans. Because completion of the checklists was so far behind schedule, the only choice remaining was to work on the checklists and plans simultaneously. While the checklists were being developed, thought was given to the "text" portion of the plan which would support the checklists and make the plans complete. The plans were not completed until very end of the project due to the delay in checklist completion.

The last meeting of the Task Force was spent discussing operations centers: their location, set up and resources, and equipment needed. At this meeting the Task Force also identified the need to continue meeting on a quarterly basis.

Outcomes

All of the objectives of this project were met, although not on time. The Division Disaster Plans are complete and have been integrated into the HSADP via checklists and as a supplement to the HSADP.

The final products of this project are the Health Services Agency Division Disaster Plans. Additionally, the Divisions had a lot of experience with disaster response and planning. The Divisions now have employee call back lists and there's a clear definition of how an employee is to respond in a disaster situation. The process of developing the plan in and of itself was a real eye opener and wonderful tool for overall disaster response education and preparation, beyond the written plan.

Conclusion

With the completion of the division disaster plans the Health Services Agency disaster response, by virtue of the implementation of SEMS, has been redistributed to the most appropriate levels and people. Mechanisms for coordination and communication in and among the divisions and key management have been put in place. The dedication of the Task Force members to

voluntarily chose to continue disaster planning efforts after the conclusion of the project demonstrates the Health Services Agency's commitment to on-going Medical/Health disaster preparedness.

Emergency Medical Services for Children (EMSC)

Grantee:
Santa Barbara County EMS Agency
Project Number: EMS-7038
Project Period: 07/01/97-06/30/98
Project Amount: $46,400.00

EMS Administrator:
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Introduction

Children differ from adults both physically and emotionally, and the treatment of critically ill or injured children must meet their unique needs. An illness or injury that may not be serious to an adult can have long-term impact on a child's physical and emotional well-being. Emergency Medical Services for Children (EMSC), incorporating prehospital care, hospitalization, rehabilitation, and community follow-up, must take into consideration the special needs of the pediatric population.

Much of emergency education and training in the EMS system has focused on the adult patient. In Santa Barbara County, 1990 census data show that **twenty-three percent of the** county total **population** is **under seventeen. Additionally, 10% of the prehospital responses in our county for** 1995 **were for children under eighteen.** These numbers justify the development of a coordinated and well integrated approach to pediatric emergency care. Santa Barbara County's Injury Data Surveillance Pilot Project (E-code Project) found that 36% **of patients treated for** injuries in **ED's as** outpatients **were under eighteen years of age.** The lack of coordination of EMSC efforts creates an imbalance in the level of services available to pediatric patients throughout the county.

Project Description

The overall goal of the first year of this project was to begin planning, development, implementation and evaluation of a comprehensive EMSC system for Santa Barbara County. This EMSC system plan will address all components of an EMSC system based on the guidelines developed by the California EMS Authority. Under the direction of Santa Barbara County EMS Agency, and with guidance from the EMSC Advisory Committee and its subcommittees, the project will maintain its emphasis on pediatric prehospital, emergency department, critical care, trauma services, data collection, and EMSC program evaluation. Integration of the current program and coordination of injury and illness prevention programs will remain essential. Santa Barbara County EMS Agency will continue its support for the EMSC system after completion of the project.

Tasks/Methodology

The specific objectives are:

< To establish, with the EMS Agency, an organizational and administrative structure for the planning, development, and implementation of a comprehensive EMSC system.

< To establish an EMSC Advisory Committee.

- To develop an EMSC system plan.
- To develop and implement appropriate prehospital services for children.
- Begin developing and implementing appropriate administration, personnel, equipment and supplies, and policy standards/guidelines for the care of pediatric patients in the Emergency Department.
- To assure appropriate interfacility pediatric consultation and transfer agreements, and transport services between local hospitals and tertiary care centers.
- To review and if necessary develop Standards for Pediatric Critical Care Centers for Santa Barbara County by June 30, 1998. Implementation will be completed in the second year phase.
- To develop recommendations for EMSC injury and illness prevention programs and the integration of existing prevention programs with the EMSC system by June 30, 1998. (Integration of recommendations into existing prevention programs within the EMSC system will be completed in the second year phase).
- To develop recommendations for hospital and prehospital information management in an EMSC system and data collection for evaluation of the EMSC system.
- To assure adequate pediatric rehabilitation services for Santa Barbara County and develop recommendations for the integration of these services into the EMSC system.

Outcomes

Local agencies and individuals were brought into the project and formed into a task force. This task force was divided into three subcommittees/teams, each have their own team objectives to meet. The three teams are: Prevention Team, Prehospital Team and Hospital Team.

The Prevention Team was successful in identifying and prioritizing the areas we wish to focus our attention. One area we have been successful in, is in expanding the bicycle helmet safety program. The program remains important because the estimated cost of bicycle related injuries and deaths, for all ages, totals eight billion dollars annually. Enforcing bicycle safety, especially to young children developing health habits, significantly reduces the high cost of injury related accidents. In the fall when school starts, the Prevention Team will contact the schools and participating physicians and start the site visits again to promote bike safety with all the local elementary schools.

The Prehospital Team has been successful in implementing appropriate prehospital services for children. The team has developed a pediatric equipment list for the prehospital setting which meets the recommended state guidelines. Site surveys will be conducted during the second year of the project. Pediatric Airway Management "Train-the-Trainer" course was conducted with all BLS providers.

Guidelines for administration, personnel, equipment, supplies, and policy standards for the care of pediatric patients in the Emergency Department have been developed by the Hospital Team. During the second year the team members will do site visits.

The project coordinator is still in the process of establishing a mechanism to obtain an on-going data collection for prehospital and hospital information management. Through the Emergency Department Data Grant we will be able to incorporate hospital outcome information and link it to the prehospital data we already collect.

In the future, EMSC will look to assure adequate pediatric rehabilitation services for Santa Barbara County and develop recommendations for the integration of these services into the EMSC system.

Conclusion

The first year of this project have been very successful. All areas of this on-going project are progressing in a positive way. First and foremost, a network of pediatric emergency medical and critical care services providers was established. The EMSC Advisory Committee, utilizing the California EMSA model, worked arduously to produce documents detailing several key components of the evolving Santa Barbara EMSC system plan. During the second year we will build upon these accomplishments to complete the overall Project objective of improving the quality of pediatric care in Santa Barbara County through the incorporation of an EMSC system into the existing EMS system.

Helicopter Dispatch and Tracking System

Grantee:
Sierra-Sacramento Valley EMS Agency
Project Number: EMS-7039
Project Period: 07/01/97-06/30/98
Project Amount: $12,450.00

EMS Administrator:
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Introduction

There are five air ambulances and one air rescue currently operating in the five-county Sierra-Sacramento Valley region. There have been incidents of multiple helicopters arriving on a medical scene at one time causing concern for air safety, medically inappropriate dispatch and private citizens requesting helicopters. The need for centralized dispatch was identified through several Emergency Medical Care Committee meetings and grant funds were sought to purchase software to facilitate centralized coordination.

Project Description

The primary objective of the project was to implement a software program which would enhance helicopter coordination and could be compatible with the computer dispatch system at Grass Valley California Department of Forestry Command Center.

Tasks/Methodology

An MOU between California Department of Forestry and S-SV was signed with CDF agreeing to install software at the Grass Valley Command Center and centralize the coordination of requesting EMS aircraft. Subsequent meetings occurred between S-SV administration, staff and CDF to determine software requirements and dispatch responsibilities. Input was received from several sources at meetings with helicopter providers, dispatchers, and at monthly Medical Control Committee meetings.

Outcomes

The outcome of the project was an implementation of a Helicopter Utilization Task Force Committee which reviewed and recommended changes to the S-SV EMS Prehospital Aircraft Operations Protocol (Ref. No. 450, S-SV Policy Manual). Additional responsibilities of this committee are to meet on a quarterly basis to review dispatch procedures, response zones, response times, appropriateness of dispatch and compliance with policies and procedures. A separate committee will be convened to review helicopter quality improvement issues.

Conclusion

The project has had a positive impact on the cooperation of air and ground providers and PSAP dispatch centers. The monthly meetings of the Helicopter Utilization Task Force has opened communications between providers and has been a good forum in which to discuss issues that specifically pertain to air dispatch. This air dispatch system would work well in an EMS system with many air providers or a system with as few as two providers.

Patient Outcome Data

Grantee:
Sierra-Sacramento County EMS Agency
Project Number: EMS-7062
Project Period: 01/01/98-12/31/98
Project Amount: $60,000.00

EMS Administrator:
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Introduction

This project was intended to electronically link emergency department patient data with pre-hospital data. The combined data is intended to be used for CQI purposes, therefore benefitting patients by improving pre-hospital care.

Project Description

This project would result in a modification of the current data collection system to allow for additional databases consisting of "matched" data. That is, data from pre-hospital care matched to emergency department outcomes. The S-SV pre-hospital data system does not collect identifiers such as birth date or social security number. Several identifiers, for purposes of connecting the pre-hospital record to the emergency department record were determined. A probabilistic match was determined by matching the following data fields: arrival by EMS, data and time of arrival, gender and age. One hospital in the region entered the lithocode number on the patient care form, which allows for an almost 100% match.

The data is downloaded by modem at a time convenient for the hospital personnel, but at least once a month. The data is matched by S-SV staff and can be exported into Excel which allows for easier manipulation of data fields.

Tasks/Methodology

The following tasks were identified and accomplished during this project.

< A consultant was hired to accomplish the following:

  a. Meet with hospital Information Services Managers and discuss emergency department log configuration.
  b. Determine hardware and software requirements needed for implementation.
  c. Develop an interface between emergency department computers and EMScan pre-hospital database.
  d. Develop export specifications.
  e. Identify data elements.
  f. Analysis of data received from hospitals prior to input into EMScan system to assure completeness of transfer.

< S-SV was responsible for scheduling meetings and conference calls, purchasing software and modems, oversight of the project, liaison between all parties involved and contacting hospital representatives.

Outcomes

Every hospital in the S-SV region uses

a different software package for their emergency department logs. Two of the eight hospitals have not submitted data because they do not have computerized ED logs. Kaiser Roseville has agreed to participate after the end of the grant period. Kaiser Roseville did not open until October 1998.

S-SV currently has data from Rideout Memorial Hospital at our location. Sutter Davis and Sierra-Nevada's data remains at EMS Data Systems, Inc. for continuing analysis and will be shipped by modem upon completion of analysis. Sutter Davis, Sutter Roseville and Sutter Auburn Faith have not yet submitted complete data elements.

Conclusion

The emergency department outcome link to pre-hospital data allows for a very important missing link of information essential in the quality assurance process and for education purposes. This type of project is best planned as a two year project, especially in a region with multiple hospitals, as emergency department software programs may differ.

Regional EMS System Development

Grantee:
Sonoma/Mendocino EMS Agency
Project Number: EMS-7041
Project Period: 07/01/97-06/30/98
Project Amount: $162,500.00

EMS Administrator:
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Introduction

Historically, Sonoma and Mendocino developed their own respective EMS systems independent of the other with the exception of a strong peer support relationship which existed between the EMS Coordinators of each county. The resignation of the Mendocino EMS Coordinator in 1993 lead to discussions between the two counties regarding the potential for Sonoma County to provide EMS Agency services to Mendocino. Those discussions resulted in a contractual relationship between Sonoma and Mendocino that was initiated in January 1994. As a result of this contractual multi-county EMS system relationship, both counties expressed an interest in exploring the benefits of formalizing the regional EMS agency and pursuing outside funding to assist in developing this regional system. The assistance of Federal Block Grant funds through the State EMS Authority aided the Sonoma/Mendocino EMS Agency in fulfilling the essential functions as an EMS Agency for this multi-county EMS system.

This was the fourth (3rd full year of funding) for the regional EMS system development project. This regional project received its initial funding under a grant agreement during the FY 1994-95 (effective April 1, 1995) and subsequent agreements during fiscal years 95-96 & 96-97. The primary objective for this period was to expand the region to include one or more of the neighboring north-bay counties. Additional objectives were written to focus on other components of the EMS system and included sub-tasks that identified areas targeted for improvement during the project period. Detailed information regarding this project and associated objectives/tasks, methodology and implementation schedule is contained within the quarterly report documents.

This report is the final project abstract report for the Sonoma/Mendocino Regional EMS System Development Project for FY 1997-98.

Project Description

This regional EMS system development project was designed to focus on the major components of an EMS system as set forth in the State EMS Systems Standards and Guidelines. The primary objective was to expand the region to include one or more of the neighboring north-bay counties. The project established 8 major objectives.

- To expand this existing multi-county EMS system by adding an additional county(ies).
- To improve system organization and management in the region.
- To increase and improve personnel and training.
- To improve communications systems

in the region.

- < To improve disaster medical preparedness in the region.
- < To improve transportation and performance in the region.
- < To improve public information and education in the region.
- < To improve the assessment of hospitals and specialty care centers in the region.

Tasks/Methodology

Specific tasks were designed within the general objectives to accomplish the desired result. Major tasks included:

- < Expanding the region to include one or more of the neighboring north-bay counties. (Achieved - contract with Napa County under development. Implementation during FY 98-99
- < Maintaining staffing of all allocated positions. (Achieved)
- < Maintaining contractual relationship between Sonoma and Mendocino Counties. (Achieved)
- < Revision of EMS plans. (Not achieved/Deferred until next FY in order to include Napa County)
- < Review & revise local policies to ensure compliance with state regulations. (Achieved)
- < Maintain QI programs and continue working to upgrade Mendocino County providers to the paramedic level. (Achieved)
- < Pursuing improvements in the region's communications system. (Partially achieved)
- < Maintaining ICS/SEMS based MCI/disaster plans for the region and disaster preparedness/response capabilities. (Achieved)
- < Developing/maintaining provider agreements. (Achieved - see final project report)
- < Improve public awareness of EMS. (Achieved)
- < Develop & implement a regional trauma plan. (Achieved)

Outcome

As noted above, some of the objectives were proposed to be implemented over a period that extended beyond the contract period associated with this project. Most of the specific objectives were fully completed during this funding period. Detailed information regarding this project and associated objectives/tasks, methodology and implementation schedule is contained within the quarterly report documents and final project report.

Conclusion

It is quite clear that the Sonoma/Mendocino EMS system has received and will continue to realize many positive benefits from the activities associated with this project. The addition of Napa County to this EMS system will now result in those same benefits in the 3-county EMS region.

Emergency Medical Services for Children (EMSC)

Grantee:
Ventura County EMS Agency
Project Number: EMS-7040
Project Period: 07/01/97-06/30/98
Project Amount: $84,000.00

EMS Administrator:
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Ventura, CA 93003
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Introduction

Ventura County EMS identified a need for improvement in the way pediatric patients are handled in the prehospital and hospital setting. The goal of the Ventura County EMS Agency was to develop and implement an improved EMSC System, which serves children and their families countywide. This goal will continue to be a priority for the EMS Agency.

Project Description

This project proposed to develop an EMSC Master Plan for the County of Ventura. The major objectives included development of organizational and administrative structure, implementation of policy and procedures for prehospital personnel and dispatchers and to develop recommendations for information management and data collection.

Conclusion

The Ventura County EMS Agency has made the following changes/improvements during the year 2 grant:

1. The sub-committee continued to meet to help guide this project.
2. Equipment surveys were completed of each ambulance and hospital within Ventura County. New policies were developed regarding mandated equipment to be carried on all Ventura County ambulances. The changes were made to enhance the level of care currently given to pediatric patients.
3. The EMS Master Plan was partially completed.
4. A countywide Pediatric Basic Life Support "Train the Trainer" course was completed. Each BLS/ALS agency in Ventura County was represented in some way. The trainers were tasked with updating all personnel at their department/agency on pediatric skills.